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A study contracted by the Office of Education for the purpose of promoting increased use of 2-year collegiate institutions for the preparation of personnel in the health technologies consisted of the development and dissemination of a set of guidelines. A committee, comprised of junior college administrators, health facility administrators, and national health practitioners, developed a guide which (1) outlines procedures and informational sources to be used in planning health technology programs, (2) defines the roles of junior colleges, health practitioner associations, and health facilities, and (3) indicates cooperatively and individually performed tasks which lend support to the growth of quality education programs in the health technologies. The guide was partially validated by testing the role delineations in large reaction groups and through evaluation by a sample of the participants at a Chicago conference on health education. The guide was determined to be usable and to deal with many recognized problems confronting those who begin health technology programs in junior colleges. Included in the appendixes are bibliographies, excerpts from committee minutes, an names of participants. (DG)

FINAL REPORT
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September 1967

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

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Bureau of Research

INVESTIGATION TO PRODUCE GUIDELINES FOR HEALTH TECHNOLOGY PROGRAM PLANNING

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Carol Kahler

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The research reported herein was performed pursuant to a grant with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

National Health Council

New York City, New York

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INTRODUCTION

Statement of Objective

The objective of the project was to promote increased use of two-year collegiate institutions for the preparation of personnel in the health technologies through the development and dissemination of a set of guidelines. It was reasoned that increased use of two-year collegiate institutions for health technology educational programs would depend upon the success junior college programs could demonstrate in educating personnel who would contribute to quality health care. Guidelines were defined as recommended procedures and informational materials to assist colleges in program expansion for health related vocations. Emphasis was placed upon the building of academically sound and vocationally relevant programs, not just upon the rapid creation of a multiplicity of programs.

Expanding Problem Definition and Approach

The investigation was undertaken by a committee of National Health Council—American Association of Junior Colleges representatives. Junior college committee personnel had started and developed multiple programs in the health technologies on their individual campuses; National Health Council representatives had previously participated in recruiting efforts or in defining technician level personnel, were currently involved in such tasks, or working to have their professional groups recognize the need for auxiliary personnel. (See Appendix A for listing of Committee members.)

Committee members began the task by identifying problems which acted as deterrents to the development of health technology education programs. The appointive members were aided in this task by ex officio committee members and staff of the American Association of Junior Colleges and the National Health Council, who rounded out the national picture of education and health interests. The problems thus identified were:

... junior college programs hastily conceived, without needed preliminary planning

... junior college programs whose students had limited marketability because professional standards were at variance with program inclusions

... unidentified roles for technicians within many professions which apparently need auxiliary personnel

... unclear educational requirements (usually in the skill-practice area) for technicians or requirements which are not geared to junior college curricular patterns

... insufficient or unsatisfactory relationships between clinical facilities and educational institutions

... program accreditation problems, especially for the junior college with multiple health programs

... problems of critical need for instructors and of need for expanded teaching resources

... hesitancy of students and colleges to enter some health technology fields if progression to higher levels of education and employment appeared impossible

... misuse of associate degree graduates through assignment of responsibilities beyond those for which their training had prepared them.

The nature and extent of the above problems frequently were defined differently by committee members affiliated with health practitioner associations and by committee members affiliated with junior colleges. As this became evident, it was also clear that committee representation did not include a partner with an important stake in health technology programs: the health facility administrator. Accordingly, a representative of the American Hospital Association was added to the Committee.

Committee discussions highlighted the various domains of authority affecting less than baccalaureate education in the health professions. For example:

1) Hospitals, clinics, laboratories, professional schools (especially dental schools) had

traditionally educated their own auxiliary personnel.

2) Some medical and dental auxiliary personnel had faced hardships in moving from apprentice backgrounds; thus, fields often contain workers with an unusually wide range of academic education; for each level of training there may be registries which present "qualified" people to employers.

3) In some instances manufacturers of technical equipment furnished the only source of instruction for personnel. This was particularly true in areas with a rapidly developing technology and great personnel shortages.

4) Some junior colleges with multiple health programs questioned the baccalaureate tradition of health practitioner association "program approvals" in public health related fields. The absence of any decision by the National Commission on Accrediting about program approvals within junior colleges served to increase anxiety concerning the ultimate decision.

5) Advocates of increased amounts of general education potentially challenged wage scale arrangements, especially with present conditions of health facility personnel shortages.

6) With acute health facility personnel shortages, job specifications flowing from need challenged job specifications flowing from education.

7) In response to public need, state and federal authorities for protection of public health were taking a stronger position in urging the growth of educational programs, again open to the interpretation of "challenging" health practitioner association voluntary work in the field.

With this clarification of the multiple organizations having legitimate interest in the health field, theories of role division appeared relevant. The theoretical work has most often been oriented to individual rather than to organizational role analysis. An adaptation of personalized theory was, however, utilized by Naegele (9) in analyzing the overlap of function between schools, clinic and clergy in a New Haven, Connecticut, mental health project. Similar projections of role theory have been used by Lloyd Ohlin in

the social work field and in other applied social science areas. More recently, Thompson's (13) analysis of organizational action clearly takes the earlier work further and presents a conceptual framework for the guidance of inter-organizational projects. A summary of his analysis follows:

> Thompson borrows the term "domain" which Levine and White (6) described in studying relationships among health agencies in a community. Thompson accepts that all organizations must stake out a domain; although universities are universities, their domains may range considerably in relation to students served, programs, etc.
>
> This concept is enlarged to include "domain consensus," which is necessary for operational purposes. This carries the meaning that a domain cannot be arbitrarily established through unilateral action. Rather, claims to domain must be recognized by those who can provide needed support. Most complex organizations need a variety of inputs from related organizations and the domain of the organization must be accepted by these "relevant others" before the inputs can be obtained. Expansion agreements among organizations rest upon some prior consensus (although not always perfect agreement) regarding domain.
>
> The functioning of domain consensus is described as defining a set of expectations, both for members of an organization and by those with whom they interact, about what they will and will not do.
>
> Thompson goes on to point out that attaining a viable domain is essentially a political problem --one of finding and holding a position which can be recognized by all of the sovereign organizations involved as more worthwhile than the available alternatives. Accordingly, establishing domains inevitably involves compromise.

The organizational concepts described by Thompson are well illustrated in relation to the guidelines project.

1) The problem of educating new levels of health personnel was complex--a problem which no single

organization could handle adequately.

2) Categories of organizations represented on the Committee had a "stake" in the problem (each organization's functions were somehow dependent upon solution of the problem).

3) The Committee setting provided the impetus to reach consensus regarding domain.

4) Each category of organization needed to formulate an image of its own role and the role of "others" in the larger system of education of ancillary health personnel.

The procedures followed by the Committee will be described under methodology, but the above framework provides a rationale for much of the Guide* content and for extended work with other organizations within each category to check on the validity of the operational domains agreed upon within the Committee.

Related Literature and Projects

There are many areas of related literature and related projects. One area of literature basic to the problem is that connected with health manpower needs. Appendix C of the Guide documents some of the surveys which have been done and which should be helpful to communities in screening local health manpower needs against the background of regional and national needs. In addition, the review of significant projects and reports related to the Guide would include two which are still in process: (1) the work and report of the National Advisory Commission on Health Manpower, and (2) the projections of the U.S. Department of Labor. The National Advisory Commission's report is not yet available. A preliminary draft of the Department of Labor interpretive report by Sturm was available to the Committee of this project.**

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*The term Guide, wherever it appears in this report, refers to A Guide for Health Technology Program Planning, which is appended.

**Preliminary draft of the report is entitled Technology and Manpower in the Health Service Industry, 1965-1975.

A second area of related literature deals with technical education. The many past publications of the Division of Vocational and Technical Education, U.S. Office of Education, publications of health practitioner associations, catalogs of junior colleges with existing programs, state education department reports, and past publications of the American Association of Junior Colleges all receive general reference in A Guide for Health Technology Program Planning which is one product of this grant. In addition, an early draft of Criteria for Technician Education--A Suggested Guide in process by the U.S. Office of Education, Division of Vocational and Technical Education, was made available to the project director and to several committee members.

A third area of related literature concerns education for health vocations. Such items as the 1956 report of the Sub-committee on Paramedical Personnel in Rehabilitation and Care of the Chronically Ill (3), the Magnuson Commission report (15), the report of the President's Commission on Heart Disease, Cancer and Stroke (16), and the Coggeshall report (2) provided supportive background material. Because this project's most immediate task was at the two-year collegiate level of preparation, literature concerning associate degree programs in health was judged most relevant. Junior college catalogues and research reports, particularly those on associate degree nursing programs [Montag (7,8), Anderson (1), Schmidt (11), White (17)], were consulted. Also useful were publications such as Education for Health Technicians--An Overview by Robert E. Kinsinger (4) and the report of the 1965 Health Conference of the New York Academy of Medicine, Closing the Gaps in the Availability and Accessibility of Health Services (10). Periodical selections made available to all Committee members are listed in Appendix B of this report.

In addition, each health practitioner association which was a member agency of the National Health Council was contacted and asked to select a sample of its publications on technical education.

A fourth type of related literature is the whole gamut of material on junior college functioning. Appendix C of this report presents part of an annotated bibliography made available to the Committee by one of its junior college representatives at an early

meeting. Almost more significant for our purposes, however, was the constant awareness of new materials, programs, and thinking about accreditation which was available to the Committee through American Association of Junior Colleges staff assistance.

One type of relevant project is that represented by the Community College Health Careers Project, University of the State of New York, which began under Dr. Robert Kinsinger's direction. This project was concerned with developing curriculum and teacher training for practitioners in some of the emerging technical areas of health manpower need. Dr. Kinsinger's membership on the guidelines committee assured knowledge of early developments within the New York State project, and close contact with other project personnel meant that preliminary reports continued to be available to the Committee. It is perhaps significant that the cost of reproducing the first interim report of that project is being handled by the Office of Science and Technology, New York State Education Department, largely because of concern about its availability for listing in the Guide.

A second related project on which the committee received intermittent reports was that of the ad hoc Committee on Health Occupations of the Office of Education, headed by Mr. Ben F. Miller III of the American Dental Association, as part of the Cooperative Project for Standardization of Terminology in Instructional Programs of Local and State School Systems.

PROCEDURE

Guide Construction

The Committee members appointed by the National Health Council were chosen from three composite groups of health practitioner associations whose headquarters are centered in either the New York, Chicago, or Washington, D.C. area; Miss Nellie Bering, of the Education Committee of the American Society of Medical Technologists, chosen by the Washington group; Dr. A. N. Taylor, Associate Secretary of the Council on Medical Education of the American Medical Association and Director of the Department of Allied Medical Professions and Services, designated by the Chicago group; Miss Teresa Crowley, formerly director of the Committee on Careers of the National League for Nursing, currently the director of the Future Nurses' Club Program, designated by the New York group. In addition, Mr. Sidney Lewine, administrator of Mount Sinai Hospital in Cleveland, Ohio, was appointed at the suggestion of the American Hospital Association. Dr. William S. Apple, Executive Secretary of the American Pharmaceutical Association, was designated as the National Health Council Board Member to participate on the Committee. Thus, four major health fields were represented on the Committee, with American Medical Association cooperative relationships really extending the number of fields to ten. Principal investigator for the Project, Mr. Levitte Mendel, acted as an ex officio member of the Committee from the National Health Council.

Committee members appointed by the American Association of Junior Colleges were designated on the basis of differing institutional interests and competencies: Sister Anne Joachim is the President of a private junior college with multiple health related programs, Saint Mary's Junior College, Minneapolis, Minnesota; Mr. Harry E. Davis, Allied Medical Careers Development Project, Saint Louis—Saint Louis County Junior College District, director of a special project to broaden health related program offerings; Mr. Donald Smith was formerly Director of the Division of Health Technology at Monroe Community College, Rochester, New York, and is currently Dean of Instruction at a new junior college in Urbana, Illinois; Mr. Charles Chapman, President of Cuyahoga Community College, Cleveland, Ohio, was the designated Board

Member from the American Association of Junior Colleges. As the National Health Council added a representative of the American Hospital Association, the American Association of Junior Colleges filled its corollary appointment by Dr. Robert E. Kinsinger, Director of Public Affairs and Education at the W. K. Kellogg Foundation. Dr. William Shannon acted as the ex officio member of the Committee from the American Association of Junior Colleges.

In addition to the project director, the Committee was staffed by Eleanor E. McGuire, Coordinator, Health Careers Program of the National Health Council, and Kenneth G. Skaggs, Specialist in Occupational Curricula of the American Association of Junior Colleges. The Executive Committee consisted of Dr. A. N. Taylor, Committee chairman, and Dr. Charles E. Chapman and Dr. William Apple, the two Board representatives from the American Association of Junior Colleges and the National Health Council. Mr. Daniel S. Schechter, Director, Division of Education, Hospital Research and Educational Trust of the American Hospital Association, served as an informal observer and advisor to the Committee on matters relating to hospital based educational programs and training facilities.

As the above listing indicates, every attempt was made to have varied representation on the Committee and yet keep the size of the group such that discussion would be practical.

This was an ad hoc committee until the grant for the project was received. However, review of literature by Committee members really began as early as September of 1965 as a means of framing the content of the guidelines. From that date until the present the Committee has been chaired by Dr. A. N. Taylor. At the May 25, 1966 meeting, Dr. Charles E. Chapman, board member of the American Association of Junior Colleges, was selected as vice-chairman to assist Dr. Taylor. Until September of 1966 Eleanor E. McGuire of the National Health Council acted as secretary of the Committee. Excerpts from minutes of the May 25-26, 1966, meeting indicate the great progress the Committee had made even before funding for the project was available. (See Appendix D.)

Committee members had formed a working relationship, organizational procedures had been

established, and areas of Guide content and format had been suggested. The Committee had developed some unanimity about Guide purpose, some definitions and procedures; members were able to communicate with each other easily and pointedly.

When the project director joined the staff in September 1966, the work merely continued and, with the help of previous minutes and background materials, attention could be given almost immediately to the structuring of the guidelines. At the October 10-11 meeting of the Committee in Chicago, the staff presented a brief description of the prospective nature of the Guide: it was envisioned that the preface would present general manpower needs in the health field and then move to the more specific need for technicians. As the Guide cited more specific needs for technicians, the narrative, and perhaps some pictorial presentation, would locate the technician within the spectrum ranging from health aide to health professional. A listing of goals of health technology education was presented, with a review of seven types of institutions which had resources for meeting these goals.

Within this first outline of the Guide the staff had envisioned that it would focus upon the decisions junior college personnel are most likely to face when establishing and/or further developing a program, but that the guidelines would have as their goal description of greater interplay of the entire pool of resources for health technology education. At the same meeting a proposed format was presented, based upon two assumptions: (1) that principles, practices, health professional and other health practitioner associations, public agencies and program studies provide guides for decision-making; (2) that these guides can be related to sets of questions relevant to planning for health technician education at the junior college level.

The format consisted of two axes. On one axis were questions relevant to junior college planning for health technology education, divided into three sections: queries which select and define a role, queries which search out program resources, and queries which lead to curriculum development for program implementation. The other axis had five divisions: principles, practices, practitioner associations, public

agencies, and program studies as sources of information to satisfy the queries.

In general the Committee accepted the philosophy of the staff, but suggested changes in the focus of the guidelines. It became clear that the Guide should be addressed to a threefold audience: junior college administrators, health practitioner associations, and health facility administrators. While the Committee felt that the suggested format was cumbersome, they accepted it as a data-gathering instrument to pool Committee knowledge of resources, and the instrument was so used at this meeting. For the last stated purpose the Committee divided itself into three subcommittees, with one group attending to each subdivision of questions.

The next meeting of the Committee was held in New York on November 14-15. It was at this meeting that the theoretical frame of reference referred to in the introduction of this report, pages 4-5, became operant. Staff presented to the Committee a possible delineation of each of the three institutional roles. The bulk of the Committee meeting was devoted to discussion of each of the tasks the staff had enumerated. As a result, many additions and changes were made.

Between the November 14-15 meeting and the January 17-18 meeting, the staff worked to bring the agreements of the first two meetings together into a draft which would flesh-in the outlines presented earlier. Terminology had been a persistent problem; therefore, Ben F. Miller III of the American Dental Association, who was chairing an Office of Education ad hoc Committee for Health Occupations, was asked to serve as a consultant at this meeting and to report on the committee's deliberations.

For the January 17-18 meeting the staff had prepared a first draft of the Guide. The nature of this draft can be clarified by some of the criticism resulting from Committee study of the document:

> In the opinion of the Committee members, the draft contained too much background material and did not move rapidly enough nor effectively enough into the area of program development. It was decided that all discussion of health manpower needs would be relegated to an introductory letter which would

be signed by the Executive Secretary of the American Association of Junior Colleges and the Executive Director of the National Health Council. It was also clear that the desired style was to be a more staccato presentation. At the same time, additional substance was to be given to the latter part of the draft, which consisted of sections on program development.

The role delineations were again reviewed and approved by the Committee, with the exception of a request to reorder the functions within each role.

In view of the state of the Guide at the end of the January meeting, it was decided that the role delineations alone would be the material distributed at the meetings which were to be set up with the health practitioner associations, with selected representatives attending the American Association of Junior Colleges Conference, and with selected coordinators of Catholic hospitals through the Catholic Hospital Association. Accordingly, the role delineations formed the base for these meetings. The purpose of these meetings was to check the validity of the role assignments then agreed upon by the Committee and to probe for additional content needed by each type of institution to adequately perform the designated tasks. The schedule of meetings follows.

February 14 Washington, D.C.	Health practitioner associations with headquarters in Washington and governmental agencies affiliated in some capacity with the National Health Council.
February 21 Chicago, Illinois	Health practitioner associations with headquarters in Chicago.
February 24 New York, New York	Health practitioner associations with headquarters in New York.
February 27 San Francisco California	American Association of Junior Colleges' national convention with invitations to administrators from the Florida and California junior colleges predominating. These areas have

	many programs and perhaps the longest experience with health related programs, but were not represented among Committee membership.
March 6-7 St. Louis Missouri	Coordinators of Catholic hospitals from many sections of the country. Each coordinator is responsible for from three to eight hospitals.

These meetings (see Appendix E for lists of participants) increased awareness of the Committee's work and confirmed the validity of Committee judgments concerning the tasks each type of institution would be willing to accept. Some changes in wording were suggested for purposes of clarification. It was clear that both health facility administrators and health practitioner associations needed basic information about junior colleges. It was previously recognized that junior colleges needed information about health facilities and health practitioner association interests.

The fourth meeting of the Committee was held in Washington, D.C., on April 11-12, allowing the longer interim between meetings for individual committee member response to a newly conceived format, rewrite, and resubmission before the April date. At the April meeting, therefore, the Guide format was approved, with many additions made, but with provision for executive committee approvals on all future changes.

The executive committee met in New York on May 29 to make final revisions of the copy to be submitted to the editorial consultant, Mr. Roger Yarrington. The copy thus edited was used in galley form for the Chicago Conference on Health Technology Education which was convened July 10-11, 1967, in Chicago, Illinois.

Implementation

The Committee structure, as described in the previous section, was planned to achieve implementation through wide distribution of the Guide by the two parent organizations. The membership of the Committee was of sufficient status to lend weight to the

procedures recommended by the Committee. In addition, the project proposal called for a conference directed toward the specific goal of implementation of the Guide. The purpose of the Chicago Conference was threefold: (1) to create a leadership group committed to the process of cooperative planning recommended by the Guide; (2) to enable participants to anticipate difficulties which might occur in utilization of the document; (3) to stimulate new associate degree health related programs.

This invitational conference was held at the Pearson Hotel in Chicago on July 10-11. An equal number of participants was invited from the junior college field, from among health facility administrators, and from the national health practitioner associations. Junior college representatives included several of the college accreditation groups in addition to college administrators; health facility representatives included hospital administrators, medical clinic administrators, administrators of homes for the aged, administrators of rehabilitation centers, and medical laboratory administrators. The national health practitioner associations were selected from those who were not otherwise represented on the Committee or among the speakers at the Conference. The total listing of participants will be found in Appendix F. In addition, there was selected representation from the Federal Health, Education and Welfare groups and from other projects sponsored by the Division of Adult and Vocational Research of the Office of Education.

The plan of the Conference was to bring the group together for two full days of deliberation. (See Appendix G for Conference Program.) Because of the multiple interests represented, one keynote speaker provided information on the general topic of junior colleges and technical education, while the other keynote speaker challenged the group to look at health manpower needs for the future. Following these two addresses, participants were assigned to one of three groups, according to their main occupational loyalties: health practitioner association, junior college administration, or health facility administration. The charge given these three groups was to carefully consider the galley proof of the Guide, to discuss whether or not they could accept the tasks assigned to each of the groups by the Committee, and to list the problems each group saw in implementing the role

assigned to it in the planning of health technology education programs. The groups were urged to utilize the Committee members who were circulating among them at the Conference for multiple types of consultation.

Approximately one half of the total Conference was given over to small discussion groups. Each of these homogeneous groups reported to the total group on the second morning of the Conference. Committee members provided the leadership within each of the small groups. Following the reports of the first group meetings, each person was reassigned to a group for meetings on the second day of the Conference. These second group assignments were heterogeneous, with each group containing similar numbers from each type of organization. The task of the second discussion groups was to consider how they might cooperatively resolve the problems of implementation which they had identified.

During the luncheon meeting on July 11, Mr. Peter Meek, the Executive Director of the National Health Council, explained the functions of the Council to the total group. The small groups again reported to the total Conference at the beginning of the last general session. Following these reports, a panel of experts discussed aids to implement the guidelines. Participants on this panel included: (1) a representative of a State Department of Education, who is a director of the Division of Community Junior Colleges; (2) a representative from the Office of Education, Division of Vocational Education, who discussed Federal aids to implementation; (3) a member of the American Association of Junior Colleges' Airlie House Conference on consultants, who reported on an American Association of Junior Colleges forthcoming publication on the use of consultants and on the general consultation services provided by the American Association of Junior Colleges; (4) a representative from the American Dental Association, who spoke for the health practitioner associations, identifying the characteristic types of assistance all health practitioner associations would attempt to give to the implementation of the Guide; (5) the president of a State Health Careers Council who discussed ways by which such councils might provide assistance in the implementation of the Guide.

RESULTS

The Instrument

The instrument, A Guide for Health Technology Program Planning, submitted as an addendum to this report, is the primary result of the research. The instrument is based upon seven assumptions:

1) Successful health technology programs can be established only if colleges build firm and continuing relationships with health facilities and health practitioner associations.

2) Full use of the potential of the college to provide health manpower necessitates organization for cooperative action at every stage of program development.

3) The college cannot select and define a role in health technology education unless health facility administrators and health practitioners are able to see their roles in some reciprocal relationship with the junior college.

4) Each institution--the college, the health facility, the health practitioner association--commands resources vital to successful programs; each has a "stake" in educational programs for health manpower.

5) Within a community any one of the institutions has a responsibility for acting as the catalyst to urge action on these programs.

6) The principles stated in the Guide may be used in developing educational programs of less than two academic years in length.

7) Programs established with the help of this Guide should complement and be coordinated with existing educational programs.

Five of these assumptions were specifically stated in the galley of the Guide distributed at the Chicago Conference. The last two were added to the Guide after review by participants at the Conference. The substance of these amended assumptions had been discussed as early as May 25, 1965, but had not been

formally stated in the galley version of the Guide presented to Chicago participants.

The first forty-five participants preregistering for the Conference were sent response sheets (see Appendix H) to be completed after reading the Guide, but prior to the Conference. Thirty-nine of the response sheets were returned, unsigned, with identification of the participant's general institutional work setting. As a result, the following general assessments of the instrument were made:

1) On a Likert-type scale, thirty-eight of the thirty-nine respondents stated that in their opinion the Guide would "probably" or "definitely" (the two highest points of a five-point scale) facilitate the development of programs for the education of health technicians. One respondent was undecided.

2) Thirty-four of the thirty-nine respondents rated recommended procedures as either "probable" or "almost certain" to lead to productive program planning. One respondent did not answer this question; three were undecided; one felt that the recommended procedures would probably lead to confusion in planning.

3) Thirty-six of thirty-nine participants stated either that "almost all" of the recommended steps in program development were necessary, or that "all" were necessary; two were undecided, while one person thought many of the steps were unnecessary. Thirty-five reported that "most" or "all" steps were adequately defined. In one instance this question was not answered, while two individuals felt that some steps were poorly defined; one respondent had no opinion. The following quotations from other sections of the response sheets illustrate the varieties of logic supporting the negative comments on the instrument:

> Somehow, the emphasis is on assistants to existing practitioners. Future delivery of health care may require totally new workers--unrelated to current professional guilds--how can (or can it?) the junior college plan for these new workers?
>
> Guidelines seem to be too wordy and cumbersome. Although all steps are necessary, some of the

information seems most elementary--and basic. I doubt if these guidelines add a great deal of information on program development to an experienced junior college administrator working in occupational programming.

Cannot see problems being minimized if guidelines followed, but maximized. Such a program will have many problems just because it is new; will require a different direction for most colleges and faculty. However, the need is great and thus eventually a measure of success will evolve.

4) A preponderance of the participants checked the following adjectives as descriptive of the overall sequential treatment of program development: "logical," "practical," and "clear."

5) The adjectives seen as best describing the information contained in the Guide were: "necessary," "helpful," "generally accurate," or "accurate to the best of my knowledge."

6) In relation to the five assumptions stated within the galley version of the Guide, there were the following reactions:

a) One person disagreed with the second assumption (full use of the potential of the college to provide health manpower necessitates organization for cooperative action at every stage of program development), while two respondents were undecided.

b) Two participants disagreed with the third assumption (the college cannot select and define a role in health technology education unless health facility administrators and health practitioners are able to see their roles in some reciprocal relationship with the junior college), while five were undecided.

c) Two respondents also disagreed with the fifth assumption (within a community any one of the institutions has a responsibility for acting as the catalyst to urge action on these programs), while three were undecided.

d) All agreed with assumptions one and four (successful health technology programs can be established only if colleges build firm and continuing

relationships with health facilities and health practitioner associations) (each institution--the college, the health facility, the health practitioner association--commands resources vital to successful programs; each has a stake in educational programs for health manpower).

7) The single year's duration of the project precluded testing of the underlying hypothesis which was that written guidelines could help future programs minimize the existence of previously experienced and identified problems. However, some indicators of the reasonableness of the allegation are present from several sources. The first source stimulated the initiation of the project proposal: the number and type of inquiries received by the National Health Council and the American Association of Junior Colleges for printed materials which might be of assistance in establishing health technology programs in junior colleges. While not specifically available for count, personnel of both organizations found that they were making innumerable referrals to multiple agencies in response to specific requests and that many general inquiries expressed a level of naiveté which made referral by letter meaningless. The second source was available when galley proofs of the Guide were submitted to selected individuals at the Chicago Conference on Health Technology Education. This conference will be described in detail later in the report; therefore, it is sufficient to indicate here that in order to assure a reading of the Guide prior to Conference attendance, participants were asked to respond to the following open-ended question:

> Assume that the purpose of the Guide is to encourage program development practices which would eliminate, or at least make less likely, some problems traditionally faced in building new educational programs within the health field. On the basis of your reading of the Guide, what problems might be minimized if the guidelines were followed?

Responses to this question again indicated it was reasonable to believe that the guidelines developed might minimize specific problems, since the reading audience could successfully identify the problems to which the Guide was directed. This will be further discussed in the following section.

Implementation Conference

As was noted on page 16, two additional assumptions were added to the Guide as a result of the Conference. The Conference also confirmed the necessity for the "general" nature of the guidelines: each reporter commented on the great heterogeneity of the group. For example, the chairman of the health practitioner association group reported that some associations were well along in defining the assistant roles, while others were barely on the threshold of this. He also reported on difficulties in defining the technician role within each of the health vocations. The chairman of the junior college group commented upon the different views of program planning held by the range of educators within his group. The chairman of the health facility administrator group spoke of the amount of discussion which the very presence of administrators of long-term care and rehabilitation centers, as well as the presence of administrators of medical clinics, had occasioned since these facilities have often not played an extensive role in providing clinical experience for the health vocations.

Reports from small discussion groups were given at the general sessions of the Conference and tape-recorded at that time. The following comments have been selected from those group reports.

Comments on usefulness of the Guide:

- The process described in the Guide is real; all of our work in the field should continue to stress involvement of these three groups.
- A climate of cooperation may need to be created before the Guide can be used; however, the Guide may assure those involved that there is some precedent for cooperative planning.
- It will help junior colleges to recognize their role in occupational education.
- It will be most useful to junior colleges when they are starting programs in an area.
- It will help junior colleges in initiating action with other groups.

- Junior college faculty may well benefit from the Guide, as well as junior college administrators.

- Teacher preparation institutes may also find it a useful instrument.

- The Guide may be useful as one instrument to help prepare professionals for work with assistants.

- The health facility administrators attached importance to the information on the junior colleges and to the information found in the appendices.

Comments on problems of the Guide:

- Some of the challenges are formidable; we need to continuously share responsibility for working toward standardization of occupational nomenclature.

- The Guide stresses two-year associate degree programs to the neglect of other possible programs of the junior college; it should give earlier attention to "less than associate degree programs."

Suggestions for distribution:

- Distribution through the National Health Council and the American Association of Junior Colleges, individual junior colleges as advisory committees begin work, Health Manpower Commission of the Public Health Service, university offices of community college relations, American Association of Medical Clinics annual meeting, Index of the Library of Congress, journal reporting, regional meetings of rehabilitation centers, state associations of hospitals.

- In journal reporting, try to avoid taking portions out of context, but stress summarization.

- Seek to use to advantage distribution through multiple voluntary groups rather than direct distribution from a governmental agency.

- Avoid implications of phasing out or eliminating any existing programs or programs of less than junior college level--stress that encouragement of

additional programs in implementing Guide is to add to the supply of programs, and is not a matter of replacement.

DISCUSSION

The Instrument

One purpose of the Guide was to encourage program development practices which would eliminate or make less likely some problems traditionally faced in building new education programs in the health field. Selected participants of the Chicago Conference, after reading the Guide, were asked what problems they thought might be minimized if the guidelines were followed. The initial approach of the Committee had been to formulate a list of impediments to sound programs. The Chicago Conference participants saw the Guide as a move toward resolution of all but two of the problems cited by the Committee (see pages 1-2 of this report for summarized listing of problems). The two problems left unresolved by the Guide were: (a) critical needs for more instructors and expanded teaching resources; (b) ways of opening new avenues of progression from one level of education to succeeding levels of education.

The first problem of meeting the critical need for instructors and expanding teaching resources was frequently discussed within the Committee. While it was felt that increased interest of health practitioner associations in junior college programs might stimulate interest in teaching within junior college programs, this was recognized as a long-term solution. The imposition of instructional techniques where no baccalaureate programs existed was questioned, even though there is some current experimentation of this nature. The solution to which the Committee turned most frequently was that of making more efficient use of the existing instructor pool and existing teaching resources through some type of correlation devices for handling interrelated areas of instruction. The Committee also felt, however, that multiple meanings were being given to the term "core curriculum," that many of the logical areas of technician education had not even been explored, and that the interrelations remained nebulous because of such lack of definition for the broad spectrum of health technologies. In view of these barriers, the Committee did not feel competent to give guidelines for correlational practices, even though they saw these as necessary and most desirable.

The second problem which was neglected within the Guide was that of attempting to open up avenues of progression from one level of education to succeeding levels of education. Again, there were no doubts about the need for articulation of one program with programs at other levels in order to overcome some of the barriers to recruitment for the health technologies. The problem of articulation was recognized as interrelated with that of successful correlation, but also interrelated with a host of other elements. Lack of knowledge again excluded the possibility of dealing with this issue in the present Guide.

The Guide apparently communicates its central themes. Responses of participants at the Chicago Conference indicated that the Guide would help to minimize such things as junior college planning independent of facilities and practitioners, unnecessary waste of time, breakdown of communications between professional groups, unnecessary duplication of programs, individuals who were trained but not educated, choice of programs that would not succeed, lack of support from the community, and insufficient collection of sources of information and assistance in planning programs.

It will be recalled that in the analysis of the previous section, the two top levels of the five-point Likert scale were combined. When this was done, assessments of the Guide as a help to program development and ratings of procedures and steps in program development were remarkably similar among all three groups. However, when only the top level response is examined there are some group differences which can be noted.

The junior college group was more cautious in rating whether the Guide would facilitate the development of programs (with 54% replying "definitely yes") than were health practitioner associations (with 64% responding "definitely yes") or health facility administrators (with 67% responding "definitely yes"). However, a larger percentage of the junior college group (46%) saw the recommended procedures as "almost certain" to lead to productive program planning, while only 21% of the health practitioner associations and 22% of the health facility administrators rated the procedures in that top category. While a large majority of the health practitioner association group (79%) felt that <u>all</u> of the recommended steps in program

development were necessary, 34% of the health facility administrative group designated that <u>almost all</u> of the recommended steps were necessary and a slight majority of the junior college respondents indicated that some steps were poorly defined, the majority of all respondents (ranging from 50% to 67%) felt that "most" steps were adequately defined, with 50% of the junior college group checking the unequivocal statement that "all" steps were adequately defined.

While the most favorable total assessments of the instrument, including unsolicited written comments, came from junior colleges, it is interesting to note that while there was a minor amount of disagreement concerning the underlying assumptions, the junior college group was more critical of these than was any other group. Some of the assumptions with which there was disagreement might be interpreted as limiting the autonomy of the college, which may account for the anomaly.

There were three responses from individuals who were not closely allied with any of these groups, and therefore represented more general interests. These three questionnaires added little to the total picture, since all of them were positive and contained few notations.

Implementation

The following implementation excerpts are taken from pre-Conference response sheets, with elimination of duplicate suggestions, and stated as implementation <u>needs</u> in specific situations.

Health facility administrators expressed the need for:

- clearer definition and illustration of the types of positions and technicians to be trained

- additional publicity through mass media

- recommendations for increasing salaries because
  a) pay is important in recruitment of manpower;
  b) hospital administrators need to be educated on the importance of raising salaries now;
  c) men are attracted to other fields because pay is so low in "health"

- increased cooperation by appropriate state agencies, e.g., Division of Laboratories of Department of Public Health in case of clinical laboratory assistants

- one central, national office, agency or headquarters to which all interested institutions or associations can direct their questions as to the facts about government programs, changes in the factual information contained in the Guide, and advice as to where next to turn to resolve the particular obstacle or problem blocking major progress

- assistance with appropriate presentation to various components in the community so that the purposes and modus operandi are fully appreciated

- training funds to pay stipends to students and institutions engaged in the programs.

Health practitioner associations expressed the need for:

- additional information developed by and for health practitioners who lack experience in teaching (and planning for teaching), especially to supplement these guidelines

- money for administration

- greater certainty about the roles and functions of the technician vis-à-vis those of the professional

- assistance in getting information, in depth and amount required, to local health practitioners in order to help them participate effectively

- further classification of possible educational use of osteopathic hospitals ("There are 80 osteopathic hospitals approved by the AOA for training of interns and/or residents. Many of these hospitals have the personnel and facilities for the clinical training of paramedical students. Question of accrediting such programs poses a problem.")

- assistance in informing junior colleges of possible needs for their own geographical area

- assistance in informing and cooperating with state and local professional societies in developing curriculum

- assistance in training the professional in "how" to supervise.

Junior college administrators expressed the need for:

- assistance in locating teaching staff

- help in recruiting for the junior college programs in addition to present recruitment efforts for the state universities or senior colleges

- re-education of the state departments of education and boards of control for the junior colleges to inform them of the development in two-year programs (suggestion made that this should be done through the U.S. Department of Health, Education, and Welfare)

- consultants in the health area

- a program to acquaint high school guidance personnel with the various health occupation areas

- realization by health practitioners and facility administrators that they too are responsible for the recruitment of able students into the allied health fields

- orientation, for those involved, to the community college philosophy and community college education in general (statement made that role of the community college must be interpreted to the various health groups and, in turn, the allied health curriculum should be interpreted to those concerned with general education courses within the colleges)

- strong endorsement of the Guide by the associations, particularly the American Association of Junior Colleges

- helping to define the distinct roles of vocational-technical education health programs in the vocational schools and in junior colleges in our

country (statement made that frequently recruitment is confusing and misleading to students because the words technology, technician, vocational skills, and work experience are all misinterpreted by educators and the general public doesn't understand)

- more "know-how" in community planning for health in the country with proper interpretation of present statistics and lack of duplication in health agencies (i.e., competition between hospitals and between physicians)

- clarification of tasks of health facilities in program development and responsibilities once program is underway.

Additional implementation suggestions gleaned from group discussion reports recorded at the Chicago Conference:

- a bibliography of materials which would interpret the community college to groups encountering it for the first time

- guides to selection of advisory group members

- help in overcoming skepticism about whether the community college can really assure quality education

- need for improved inter-association relations

- help in translating back and forth between the system that had traditionally been used by professional groups (clock-hours) and the system of college credits until common understanding is reached about what kinds of learning experiences are necessary to attain an end product of desired skills, knowledge and attitudes

- help in bringing into balance high manpower demand areas and student perception of what they would like as a life-work

- assistance in overcoming resistance of groups to changes (in some instances, practitioner groups were identified)

- give a fairly long life to advisory committees for follow-through purposes

- recruitment assistance

- separation in thinking about the nature of accreditation and the licensure of practitioners; once separated, there must also then be correlation of accrediting standards and of licensing practices. Accreditation may become a much less complicated and cumbersome process than it is at the present time if these complement one another

- help in answering some unanswered questions such as:

  Do we need to re-define jobs and group-related occupations to reduce fragmentation of training programs?

  Should we attempt to reduce the number of training programs by implementation of broader initial training?

  Will use of the core curriculum concept cause friction between representative groups?

  Should the impetus for combining related training occur at the community level and feed up to the national organizations, rather than occurring at the national level and feeding down?

  How would this combining of related training affect the quality of patient care?

- all concerned need reminders that turning out large numbers of technicians without the preparation and the utilization of adequate supervisory persons is no answer to anyone's problem; rather, it might well complicate the problems

Summary of Discussion

The Guide, as an instrument to encourage junior college health technology programs, appears capable of implementation. Conference participants indicated concrete needs for implementation of the procedures, some of which needed to be achieved locally. Other recommendations for national level action were also made.

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Conclusions

A Guide for Health Technology Program Planning, as constructed by a joint committee of the American Association of Junior Colleges and the National Health Council, is now in publication form. In the process of being written it has, in varying stages, been reviewed by representative audiences. In general, the meaning and intent of the instrument appears to have been communicated. The process of program development which it describes has been characterized as clear, logical, and practical. When under review, the instrument stimulated high amounts of discussion and interest among the three groups to whom it is directed: health practitioner associations, junior colleges, and health facilities.

Using only the most direct channels of communication available to both parent organizations, their memberships, distribution to an influential audience is assured. The single implementation conference held in Chicago, July 10-11, confirmed the acceptability of the role expectations outlined for the participant groups in program development, generated ideas for implementation, and strongly affirmed the productive nature of the cooperative working relationship which is the focus of the Guide.

Implications

The strongest implication of the project is that it demonstrates the promise of public-private partnerships. Voluntary associations saw a need for action which they documented and committee functioning began under the financial support of the associations. When it was realized that the action needed more financial resources than they had available, federal support added stature and practicality to the plans of these voluntary organizations. The decisions to be made, the action to be taken, the agreement concerning roles to be played in relation to health technology programs needed to emanate from the voluntary sector which had a tradition of experience in providing for health care needs and the power to implement plans at the local level. This project, in the opinion of the investigator, has strengthened the liaison of public and private

interests within the three sectors of health, education, and welfare. The action which follows cannot be predicted with certainty, but if the Guide is utilized as even a general model for program development, coordinated public and private action in building health technology programs would appear inevitable.

A second implication is that in tasks concerned with guide-building and dissemination, it is productive and economic to view both tasks simultaneously.

Later response to the Guide confirmed that the Committee was a microcosm of the educational program building elements in the health field: very few of the suggestions had not been anticipated; the task assignments resulting from committee deliberations were found totally acceptable by a wide variety of organizations. Dissemination is a natural by-product of the process used in the initial project planning, in the selection of a Committee, and in funding. There should be few problems in achieving adequate dissemination of the guidelines.

Implementation of the Guide is, however, another matter and is the basis for recommendations which follow.

Recommendations for Further Research

In the process of work on the construction and dissemination of the Guide, two blocks to implementation became clear: (1) the uneven preparation of health practitioner associations to carry out the domain of organized action designated for them within the Guide; (2) the lack of material and human resources for conducting educational programs in the technologies, which calls for all possible economies in teaching arrangements to be accomplished while preserving and increasing the mobility possibilities of those trained at both vocational and technical levels.

The first block manifests itself in several ways, such as health practitioner association definitions of technical requirements which in no way fit the approximate two-year program policies of junior colleges; the present existence of as many as fifty programs in junior colleges which qualify students for such a low level of professional association acceptance

that investment in two years of collegiate education beyond high school appears impracticable for many potential candidates; the increasing difficulty of educational associations such as the American Association of Junior Colleges to work in detailed fashion with each individual health practitioner association which is expanding its interest in technical level workers in response to local and national needs. Finally, the above problems produce uncertainties among health facility administrators, health professionals and colleges, which may then be reflected in ineffectual health field recruitment procedures at junior and senior high school levels.

In the process of developing the Guide for Health Technology Program Planning, the National Health Council—American Association of Junior Colleges' Committee on Health Technology Education also became increasingly aware of problem areas within which so little was known or had been done that no satisfactory patterns could even be suggested as guides to participating institutions developing health programs. These unresolved problems centered about two questions:

1) How can curriculums in the various health technologies be correlated (when one college is sponsoring multiple health-related educational programs) so that economic use can be made of such scarce items as qualified faculty and general space and time resources?

2) How should two-year curriculums in the health technologies be designed to achieve the greatest possible articulation between these two-year collegiate programs and four-year professional programs, and between two-year collegiate programs and vocational education programs?

These two problems are interrelated. It is possible to construct a curriculum which provides for maximum correlation of offerings in related programs, but frequently these "melded" offerings become difficult, if not impossible, to title and to describe when other institutions attempt to evaluate the student's background. All too often the "core" course has become an orientation tool, an "addition" to the requirements within each program--not a step toward satisfaction of those requirements. Correlation must not hinder the possibilities of articulation between various levels of

education in any one health field--and could enhance articulation among programs. To accomplish this, correlation and articulation must be studied concurrently.

Both of the problems cited demand a high degree of collaborative planning between health practitioner associations and junior colleges sponsoring health programs. Practitioner associations have given leadership to the development of quality programs at the professional level. Their role is being extended to technical level programs. With the proliferation of technical and vocational level programs, the role becomes increasingly complex and vital. Without careful liaison work between junior colleges and health practitioner associations, it would be impossible to achieve correlations which may enhance rather than deter the probability of appropriate movement of capable individuals from one level of preparation to a higher level of preparation.

Individual junior colleges planning with appropriate representatives of health practitioner associations might achieve the same goal, but the multiple demands this made on staff would appear unreasonable and uneconomic if some of the problems could be at least partially resolved through more centralized planning.

Colleges have approached correlation among health programs as an intra-institutional problem. As such, the search was for the relationships that could be established among the programs on that campus. The search was thus limited in space. It was limited in two ways: (1) to those fields where standards for technicians had been established, and (2) to those considerations most pertinent to programming within the single institution, often to the neglect of consideration for articulation with programs at a lower level or at a baccalaureate level.

Research is therefore recommended which would:

1) economically extend the number of health practitioner associations ready to perform the tasks of cooperative program development proposed as desirable and necessary within the Guide for Health Technology Program Planning;

2) extend understanding of relatedness among all programs for the education of health personnel in order to project curriculums illustrating feasible correlations with positive effects on articulation, recruitment, student flexibility and savings of human and material resources in educational programs for health personnel.

SUMMARY

The objective of the project was to promote increased use of two-year collegiate institutions for the preparation of personnel in the health technologies through the development and dissemination of a set of guidelines. The guidelines, entitled A Guide for Health Technology Program Planning, are appended in completed form, ready for distribution.

There were essentially two phases to the project: (1) the construction of the Guide, and (2) development of a leadership group to assist in dissemination and implementation of the guidelines.

A joint committee of American Association of Junior Colleges and National Health Council representatives was the task force for the project. Effort was exerted to make the committee a microcosm of the health technology education program planning field. The committee contained representatives of three groups: junior college administration, health facility administration, and national health practitioner association leadership; the projected audience for the Guide consists of the organization types represented on the Committee.

The Guide consists of procedures and informational sources to be used in planning health technology programs. It defines the roles of junior colleges, health practitioner associations and health facilities, indicating cooperative tasks and those which must be performed individually to support the growth of quality education programs in the health technologies.

Partial validation of the Guide was achieved through early testing of the role delineations by "larger than committee" reaction groups. The Guide was also tested against the judgments of a selected sample of participants to a Chicago Conference on Health Technology Education and judged by them to be usable and to deal with many recognized problems confronting those who begin health technology programs in junior colleges.

REFERENCES

1. Anderson, Bernice E. Nursing Education in Community Junior Colleges. Philadelphia: Lippincott. 1966.

2. Coggeshall, Lowell T. Planning for Medical Progress Through Education. A report submitted to the Executive Council of the Association of American Medical Colleges. Evanston, Ill.: The Association of American Medical Colleges. April 1965.

3. Health Resources Advisory Committee. Report of the Sub-Committee on Paramedical Personnel in Rehabilitation and Care of the Chronically Ill. Section Two of the Report to the Director of the Office of Defense Mobilization. Washington, D.C.: Office of Defense Mobilization. 1956.

4. Kinsinger, Robert E. Education for Health Technicians--An Overview. Washington, D.C.: American Association of Junior Colleges. February 1966.

5. Kinsinger, Robert E., and Ratner, Muriel. Technicians for the Health Field: A Community College Health Careers Study Program. A final report on phase one of the Community College Health Careers Project, University of the State of New York, covering period October 1, 1964 to March 31, 1966. New York: State Department of Education. March 31, 1966.

6. Levine, Sol, and White, Paul E. "Exchange as a Conceptual Framework for the Study of Inter-organizational Relationships," Administrative Science Quarterly. V, March 1961. p. 583-601.

7. Montag, Mildred L. Community College Education for Nursing. New York: McGraw. 1959.

8. Montag, Mildred L. The Education of Nursing Technicians. New York: Putnam. 1951.

9. Naegele, Kaspar D. "A Mental Health Project in a Boston Suburb," Case 11, in Health, Culture, and Community, Benjamin D. Paul, Editor. New York: Russell Sage Foundation. 1955. p. 295-321.

10. New York Academy of Medicine. Closing the Gaps in the Availability and Accessibility of Health Services. 1965 Health Conference of the Academy. New York: New York Academy of Medicine. 1965.

11. Schmidt, Mildred S. Factors Affecting the Establishment of Associate Degree Nursing Programs in Community Junior Colleges. New York: National League for Nursing, League Exchange. Number 77, 1966. Code Number 23-1222.

12. Sturm, Herman M. "Technological Developments and Their Effects upon Health Manpower," Monthly Labor Review, Bureau of Labor Statistics, U.S. Department of Labor. January 1967.

13. Thompson, James D. Organizations in Action. New York: McGraw-Hill Book Co. 1967.

14. U.S. Department of Labor. "Training Health Service Workers: The Critical Challenge," Proceedings of the Department of Labor—Department of Health, Education, and Welfare Conference on Job Development and Training for Workers in Health Services. Address by Dr. Walter J. Pelton. Washington, D.C.: Government Printing Office. 1966. p. 47.

15. U.S. President's Commission on the Health Needs of the Nation. Building American Health: A Report to the President. 5 vols. Washington, D.C.: Government Printing Office. 1952-53.

16. U.S. President's Commission on Heart Disease, Cancer and Stroke. Report to the President: A National Program to Conquer Heart Disease, Cancer and Stroke. 2 vols. Washington, D.C.: Government Printing Office. 1964-65.

17. White, Dorothy T. Abilities Needed by Teachers of Nursing in Community Colleges. New York: National League for Nursing, League Exchange. Number 56, 1961. Code Number 14-866.

APPENDIX A

AAJC-NHC COMMITTEE ON HEALTH TECHNOLOGY EDUCATION

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APPENDIX B

PERIODICAL SELECTIONS MADE AVAILABLE TO ALL COMMITTEE MEMBERS

American Association of Junior Colleges. "Paramedical and Health Related Programs in the Junior College, Some Questions and Answers," Alabama State Conference on Paramedical Education, Mobile, May 10 and 11, 1966. p. 1-15.

Buerki, Robin C. "The Increasing Role of Paramedical Personnel," Presented at the Seventh Annual Meeting of the AAMC Medical School-Teaching Hospital Section, Denver, October 17, 1964, Journal of Medical Education. XL, September 1965. p. 850-855.

Bugbee, George. "Education for the Health Professions," American Journal of Public Health. LIII, March 1963. p. 392-396.

Cosand, Joseph P. "The Junior College: A Source of Personnel," Hospital Progress. XLV, July 1964. p. 40-42 and 46-48.

Goerke, Lenor S. "Utilization, Recruitment, and Training of Health Manpower," American Journal of Public Health. LV, No. 10, October 1965. p. 1511-1520.

"Junior Colleges--Students' Hope for the Future," U.S. News & World Report. May 17, 1965. p. 66-68.

Koch, Moses S. "Proposed: A Junior College Program to Train Urban Professional Assistants," Junior College Journal. XXX, October 1959. p. 65-76.

Light, Israel. "Training for.....Health Occupations," Junior College Journal. XXXIII, March 1963. p. 16-21.

McCreary, John F. "Education of Health Personnel: The Donald Fraser Memorial Lecture," Canadian Journal of Public Health. LV, No. 10, October 1964. p. 424-434.

Merlo, Frank P. "The Burgeoning Community College," Saturday Review. December 19, 1964. p. 50-56.

Shepro, Merrill J. "Education for Dental Assistants: Report of a 15-year Study," Journal of American Dental Association. LXVIII, April 1964. p. 85/555—98/568.

Toews, Emil O. "The Present Status of Junior College Education in California," Junior College Education. XI, No. 9, May 1965. p. 13-15 and 20.

APPENDIX C

THE TWO-YEAR COLLEGE--READINGS FOR UNDERSTANDING

TO: Members of the American Association of Junior Colleges/National Health Council Committee on Health Technology Education

FROM: Donald H. Smith

RE: The Two-Year College--Readings for Understanding

The literature on the two-year college movement is extensive. The most appropriate writings, in my opinion, are those which date from 1960 on. The first of these is:

Medsker, Leland L. The Junior College: Progress and Prospect. New York: McGraw-Hill Book Co., Inc., 1960. 367 pp.

Medsker's book was the result of a major national study of the two-year college. I understand that a new edition is being prepared and look forward to its publication. Chapter 1 is appropriate for gaining an overview of the two-year college; Chapter 8 presents the development of the two-year college through the 1960's. Much has happened in the period from 1960 to 1966; and while Medsker's information is dated, his arguments are still influential in the two-year college field.

The second major work is:

Thornton, James W., Jr. The Community Junior College. New York: John Wiley and Sons, Inc., 1960. 300 pp.

Although Thornton's book presents more of the historical development and devotes considerably more space to the curriculum in the two-year college, it is six years old and much has happened since publication. Part I deals with the philosophical and historical bases of the two-year college. Part III analyzes the curriculum of the two-year college in some depth.

The third reference is:

Fields, Ralph R. The Community College Movement. New York: McGraw-Hill Book Company, Inc., 1962. 360 pp.

In Chapter 2 Fields presents a brief history of the two-year college movement, and Chapter 3 develops the characteristics of the community college. The main points which Fields uses to characterize the two-year community college are that it is (1) democratic, (2) comprehensive, (3) community-centered, (4) dedicated to lifelong education, and (5) adaptable. Fields presents descriptions of four two-year community colleges to demonstrate these characteristics.

In 1964 Brick published an important study:

Brick, Michael. Forum and Focus for the Junior College Movement: The American Association of Junior Colleges. New York: Bureau of Publications, Teachers College, Columbia University, 1964. 222 pp.

This study is particularly useful to this committee in that it presents both the two-year college idea and the development of the American Association of Junior Colleges. Chapter 1 deals with the forces and individuals which ere instrumental in building the two-year college idea in this country. The focus of the remainder of the volume is the development of the American Association of Junior Colleges.

The latest volume on the two-year college is:

Blocker, Clyde E., Robert H. Plummer, and Richard C. Richardson, Jr. The Two-Year College: A Social Synthesis. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1965. 298 pp.

The significance of this book is that it attempts to evaluate the two-year college from the sociological point of view analyzing the two-year college in relation to the society it was created to serve. Blocker and his associates present a current analysis, which identifies the successes and the problems of the two-year college. Chapter 1 does a good job of pointing out the functions of higher education in general and the two-year college in particular,

in terms of the differing philosophies of education and issues in higher education today. Chapters 2 and 3 provide an overview of the two-year college today and its relationship to other areas of the society we live in. Chapter 8 examines curriculum and instruction in the two-year college, and Chapter 10 examines the future of the two-year college.

My recommendation to the Committee, particularly those representing the National Health Council, is that the Medsker, Thornton, and Fields books are worthy of once-over-lightly reading. The Brick volume, because of its presentation of the American Association of Junior Colleges, could well be read in some depth. But the Blocker volume is worthy of careful study and recommended for your library.

The readings I have recommended deal primarily with the public two-year college. It is important to remember that private two-year colleges play a vital role in our system of higher education. American higher education is distinguished by its diversity, and it is this characteristic which underlies its strength.

Mr. Smith submitted to the committee an additional twenty-page bibliography including periodicals and books with earlier publication dates.

APPENDIX D

EXCERPTS FROM MINUTES OF MAY 25-26, 1966

MEETING OF AAJC-NHC COMMITTEE

NEW YORK, N.Y.

It behooves the Committee to produce sound guidelines which can be adapted to all levels of educational programs even though the primary audience is the junior college level. Another important factor to be considered is curriculum development principles, including the identification and relationship of the types of buildings and affiliation requirements, the educators involved, and the type of educational approach.

The following assumptions were identified and discussed by the Committee:

1) Distinct jobs or roles within a technical area can and must be identified and coordinated. Summary of discussion of assumption: The entire technical field must be reviewed and identification must be made of level of content and skills to be taught in the junior colleges. Charts with vertical presentation from aide to Ph.D. should be presented with a graduated shading. This will graphically present the area of responsibility of the health technology education levels. While a basic assumption can be made that standardization of the curriculum will develop, this is not the objective. Rather, the minimal essentials will be identified. Graphic presentation should strengthen the emphasis on the need for coordination of all levels of education.

2) There are degrees of "open-endedness" for each program at various points of the ladder. Summary of discussion of assumption: Some technical fields because of the nature of the course will be self-limiting regardless of the student, but this will vary from field to field. The Guidelines should not be structured to present a blocking of progression or to minimize any category.

3) There will probably be a systems approach employed by the junior college in evaluating the need

for a health technology educational program which will include consideration of the total problems in each community. Summary of discussion of assumption: The Guidelines will describe the process and procedure to be followed by the junior college when evaluating the needs and establishing the priorities. The junior college must assume the responsibilities of the study and evaluation.

4) The Guidelines should focus on all technician programs regardless of sponsorship. Summary of discussion of assumption: Since there are many communities which do not have junior colleges, the Guidelines should consider all institutions which might conduct educational programs. While the primary focus should be on the junior college, indication will be given that adaptations can be made to meet the needs through other established institutions of learning. Long range view must recognize that changes will take place in the educational settings for the preparation of health workers.

5) Curriculum guidelines must be built on sound curriculum theory. Summary of discussion of assumption: The Guidelines must maintain good curriculum theory in developing curriculum but must not build in specifics. Specific areas may be used as a demonstration model, such as a Case Study which includes: a) Curriculum Theory; b) Expected Behaviors as Goals; c) Content and Learning Experiences; d) Terminal Evaluation of Behavior. At present there is insufficient relationship between clinical facilities and educational institution. This is an area to which the junior colleges must be alert and sensitized through consultation and guidance. The planning and development of curriculum is an internal institutional prerogative which goes beyond the Guidelines. The basic principles and concepts of curriculum development will be presented with general recommendations as a prototype of guidance. The focus must be on the "process." The Guidelines will summarize and contain "obese annotations."

6) There is a need to determine the quality of the technician. Summary of discussion of assumption: The Committee must be careful to build nothing in the Guidelines which ties the hands of any sub-committee in its future considerations. To the present, the Committee has considered known and identified technical

fields; consideration must be given to the emergence of new types of technicians.

Suggested questions: (1) What are the criteria to be applied to determine where this worker is to be prepared? (2) What is the process for building new programs? (3) What project demonstration should be recommended to evaluate the new programs? (4) What concepts should be identified which will indicate the receptivity of the professional to the new worker.

Several important areas of content to be considered were identified: finance; initiative by community college; role of faculty; identification of the leadership within the college; prospective enrollment.

The Committee discussed the working relationship between the Project Director and the American Association of Junior Colleges and the National Health Council staff members. The functions of the respective staff members should include: (1) representation of the interest of his association; (2) interpretation of the attitudes in the field; (3) assistance in the mechanics of the operation; (4) liaison with membership; (5) communication with the field; (6) compensation and employment opportunities; (7) presentation of issues and suggested solutions; (8) interpretation of resource material.

APPENDIX E

MEETING PARTICIPANTS

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Health Careers Conference
Washington, D.C., February 14, 1967

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American National Red Cross 17th and D Streets, N.W. Washington, D.C. 20006	Terry Townsend Michele Fearing Ilse C. Sandman
American Orthotics and Prosthetics Association 919 18th Street, N.W. Washington, D.C. 20006	Herbert Warburton Lester Smith
American Pharmaceutical Association 2215 Constitution Avenue, N.W. Washington, D.C. 20037	Richard Long
American Podiatry Association and American Association of Colleges of Podiatry 2201 16th Street, N.W. Washington, D.C. 20010	Dr. Robert Oliver
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Chicago Health Careers Conference
February 21, 1967

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Eleanor E. McGuire	National Health Council
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Pauline F. Steele	American Dental Hygienists' Association
Ben F. Miller III	American Dental Association
Margaret E. Swanson	American Dental Hygienists' Association
Donna Lyons	Registry of Medical Technologists
Annie Laurie Peeler	Registry of Medical Technologists
Keith W. Gundlach	American College of Radiology
Jack Shapiro	Crane Junior College
Robert L. Coyle	Saint Mary of Nazareth Hospital
Naomi Patchin	American Hospital Association
Barbara Bloom	American Hospital Association
Davis G. Johnson	Association of American Medical Colleges
Bernice Dennis	Association of American Medical Colleges
William Carlyon	American Medical Association

Edward P. Crowell	American Osteopathic Association
Helen Brown Schmidt	Medical Library Association
Helen Yast	Medical Library Association
Genevieve J. Eilert	American Society of Radiologic Technologists
Alfred A. Rosenbloom	American Optometric Association
Richard D Morrison	American Association of Dental Schools
Thomas J. Ginley	American Dental Association
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APPENDIX F

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9:30 - 12:15 a.m. **SMALL GROUP DISCUSSIONS:**
APPROACHES TO COOPERATIVE RESOLUTION OF IDENTIFIED TASKS

Group I - Wedgwood Room

Group II - American Dental Association Building, Room #1623

Group III - Parlor A

12:30 - 1:45 p.m. **LUNCHEON** — Main Dining Room
Eleanor McGuire, Presiding
"NATIONAL HEALTH COUNCIL FUNCTIONS"
Peter G. Meek, Executive Director
National Health Council

2:00 - 4:45 p.m. **GENERAL SESSION** — Wedgwood Room
Presiding, A. N. Taylor

2:00 p.m. Group Reports

2:45 p.m. **Panel: AIDS TO IMPLEMENTATION OF GUIDELINES**
James L. Wattenbarger —
Florida State Department of Education
Division of Community Junior Colleges

Otto P. Legg —
Office of Education, Division of Vocational Education

Muriel Ratner —
Director, Health Technology Teacher
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Benjamin Miller III —
Assistant Secretary, Council on Dental Education
American Dental Association

James Crank —
President
Health Careers Council of Alabama

4:30 p.m. **CONFERENCE SUMMARY**
A. N. Taylor
Director, Department of Allied Medical
Professions and Services
American Medical Association

AAJC-NHC Conference on Health Technology Education

PEARSON HOTEL
CHICAGO, ILLINOIS

JULY 10, 11, 1967

Conference supported by a grant from the U.S. Department of Health, Education & Welfare, Office of Education, Bureau of Research, Division of Adult & Vocational Research.

American Association of Junior Colleges
1315 16 Street, N.W.
Washington, D.C. 20036

National Health Council
1740 Broadway
New York, N.Y. 10019

HEALTH TECHNOLOGY EDUCATION CONFERENCE

SUNDAY, JULY 9:

4:00 - 8:00 p.m. REGISTRATION

7:00 - 9:00 p.m. Pre-conference meeting of NHC-AAJC Committee on Health Technology Education (Committee members only)

MONDAY, JULY 10:

8:30 - 9:00 a.m. REGISTRATION

9:00 - 9:45 a.m. **GENERAL SESSION** — Wedgwood Room
Presiding, A. N. Taylor, Committee Chairman

WELCOME — William Apple, National Health Council Board of Directors

Charles Chapman, American Association of Junior Colleges, Board of Directors

Overview of Conference

9:45 a.m. **"JUNIOR COLLEGES AND TECHNICAL EDUCATION"**
Norman Harris, Professor
Department of Technical Education
School of Education, University of Michigan

10:30 a.m. Coffee

10:50 a.m. **"HEALTH MANPOWER FOR THE FUTURE"**
Edwin Rosinski, Consultant
for Health Manpower
Office of the Secretary
Department of Health, Education & Welfare

11:40 a.m. **GETTING ACQUAINTED**

Group I - Wedgwood Room

Group II - Wedgwood Room

Group III - Parlor A - 2nd floor

12:30 - 1:45 p.m. **LUNCHEON** — Main Dining Room
Robert Kinsinger - Presiding
Kenneth Skaggs - Charge to conference groups

2:00 - 4:30 p.m. **SMALL GROUP DISCUSSION: TASK IDENTIFICATION**

Group I - Wedgwood Room

Group II - Gold Room

Group III - Parlor A

5:00 - 6:30 p.m. **NHC-AAJC COMMITTEE ON HEALTH TECHNOLOGY EDUCATION**
Parlor A

TUESDAY, JULY 11:

8:30 - 9:15 a.m. **GENERAL SESSION** — Wedgwood Room
Presiding, A. N. Taylor

Group Reports

Charge to Groups

APPENDIX H

RESPONSE SHEET

Please complete the following by underlining the appropriate phrase.

I am most closely allied with

--a health facility
--a health practitioner association
--a junior college
--none of the above

---

1. In your opinion will the Guide facilitate the development of programs for the education of health technicians?

   Definitely no ____
   Probably no ____
   Undecided ____
   Probably yes ____
   Definitely yes ____

2. How do you rate the recommended procedures for the development of educational programs in the health technologies?

   Definitely unproductive ____
   Will probably lead to confusion in planning ____
   Undecided ____
   Probably lead to productive program planning ____
   Almost certain to lead to productive program planning ____

3. How do you rate the recommended steps in program development?

   Most of the steps are unnecessary ____
   Many of the steps are unnecessary ____
   Undecided ____
   Almost all are necessary ____
   All are necessary ____

Steps are inadequately defined ___
Some steps are poorly defined ___
Have no opinion about adequacy of definition of steps ___
Most steps are adequately defined ___
Steps are adequately defined ___

4. Underline the adjectives which you feel appropriately describe the <u>overall sequential treatment</u> of program development:

logical	clear
practical	illogical
impractical	unnecessarily cumbersome
unclear	

5. Underline the adjectives which best describe the <u>information</u> contained in the Guide:

necessary	somewhat irrelevant
helpful	inaccurate
irrelevant	accurate to the best of my knowledge
needs clarification	unnecessary
partially inaccurate	somewhat unnecessary
generally accurate	

6. Indicate whether you agree, disagree or are undecided about each of the following:

	<u>Agree</u>	<u>Dis-agree</u>	<u>Unde-cided</u>
Successful health technology programs can be established only if colleges build firm and continuing relationships with health facilities and health practitioner associations.			
Full use of the potential of the college to provide health manpower necessitates organization for cooperative action at every stage of program development.			

	Agree	Dis-agree	Unde-cided
The college cannot select and define a role in health technology education unless health facility administrators and health practitioners are able to see their roles in some reciprocal relationship with the junior college.			
Each institution--the college, the health facility, the health practitioner association--commands resources vital to successful programs; each has a "stake" in educational programs for health manpower.			
Within a community, any one of the institutions has a responsibility for acting as the catalyst to urge action on these programs.			

7. Assume that the purpose of the Guide is to encourage program development practices which would eliminate or at least make less likely some problems traditionally faced in building new educational programs in the health field.

   On the basis of your reading of the Guide, what problems might be minimized if the Guidelines were followed?

8. To implement the Guidelines in my position and/or in my community, I believe assistance is needed in the following:

APPENDIX I

ADDENDUM

The Office of Education Grant No. OEG-1-062355-1928 to March 15, 1968 permitted the American Association of Junior Colleges-National Health Council to co-sponsor with Southern Regional Educational Board and Western Interstate Commission for Higher Education two regional meetings to discuss the implementation of A GUIDE FOR HEALTH TECHNOLOGY PROGRAM PLANNING, and to arrange for a final meeting of the Project Committee and consultants.

The first meeting was held in Atlanta, Georgia, on December 11-12, 1967. The second meeting was held in Salt Lake City, Utah, on January 15-16, 1968. Copies of the programs and participants of both meetings are attached.

The final meeting of the Project Committee and consultants met on February 16-17, 1968 to review the project, consider additional ways to disseminate the Guide, and to encourage its continued use to promote health technology program planning.

SUMMARY OF HEALTH TECHNOLOGY PROGRAM PLANNING CONFERENCE

DECEMBER 11-12, 1967

ATLANTA, GEORGIA

Approximately sixty representatives of health practitioners, health facility administrators and junior college staff members--the three partners identified in A GUIDE FOR HEALTH TECHNOLOGY PROGRAM PLANNING met in Atlanta, Georgia, on December 11-12, 1967, to discuss the implementation of the Guide in the Southern region.

The participants were identified by the three sponsoring agencies, Southern Regional Educational Board--American Association of Junior Colleges-National Health Council, as the leadership who would form a nucleus for developing sound health technology programs in the Southern region.

In addition, eighteen representatives of state and metropolitan health careers councils were invited.

The representatives of the three partners (health facility administrators, health practitioner associations, and junior colleges) within this region accepted the cooperative roles outlined for them in the Guide. The conference produced frank discussion of doubts about the proposed junior college programs in the health technologies, thus permitting junior college representatives to clarify their position and to ask for further assistance to accomplish the task. The questions centered around the problems of what general education means in a community college, about what graduates of associate degree programs could be expected to do, and about the dangers of undue proliferation of programs. In response to these questions, there was discussion of the need for practitioner standards to be defined in such a way as to permit educational programming by the junior college. Inevitably, too, each discussion group mentioned the necessity for core curricula as one means of insuring better instruction and coordination of work in the health service area. The need for state and regional planning was also stressed in all groups to avoid undue proliferation of programs.

The frank discussions within the small groups seemed to have been sparked by the content of the introductory speeches. Joseph Hamburg, M.D., professionally identified with the oldest sub-system of health practitioner association, opened the meeting by indicating the need to develop new professionals and at the same time urged some radical restructuring of health care packages. Kenneth Skaggs spoke not only of the growth of junior colleges and the

importance of the role they were defining, but he also emphasized the need for quality control of the programs. Jerome Benson, M.D., challenged the group with the possibilities of interfacing medicine with data-processing. Robert E. Toomey said that the "explosion of concern," for health care was pushing for the organization of systems of health care institutions, rather than mere concentration upon improvement of single institutions.

A GUIDE FOR HEALTH TECHNOLOGY PROGRAM PLANNING was seen by this Atlanta group as necessary and productive of better programs if followed. They welcomed the opportunity to explore cooperation with the other groups involved, and felt that they were better prepared to follow the cooperative process of program development recommended by the Guide.

HEALTH TECHNOLOGY EDUCATION PROGRAM

SUNDAY, DECEMBER 10

4:00-8:00 p.m.	**REGISTRATION**
7:00-9:00 p.m.	Pre-conference meetings of: NHC-AAJC-SREB planning committees, speakers, panel members, discussion leaders and recorders

MONDAY, DECEMBER 11

8:30-9:00 a.m.	**REGISTRATION**
9:00-9:45 a.m.	**GENERAL SESSION**—East room Presiding: Carl Bramlette, Ph.D. Overview of Health Technology Education: Joseph Hamburg, M.D.
9:45-10:00 a.m.	Coffee Break
10:00-11:30 a.m.	**GENERAL SESSION** Panel: Response to the Guidelines: The Realities of Planning! Junior College: A. B. Martin, Ed.D. Health Professional: Jerome Benson, M.D. Health Facilities Administrator: Robert E. Toomey Question and Answer Period

MONDAY, DECEMBER 11

11:30-12:30 p.m.	Small Group Discussions Group I — Room A Group II — Room B Group III — Room C
12:30-1:45 p.m.	Lunch (on your own)
1:45-4:15 p.m.	Small Group Discussions
4:30-5.30 p.m.	**GENERAL SESSION**—Report Back

TUESDAY, DECEMBER 12

8:30-10:00 a.m.	**GENERAL SESSION** Identification of Existing Resources and Needs for Development of New Resources Session Leader: Kenneth Skaggs
10:00-10:15 a.m.	Coffee Break
10:15-12:00 noon	Small Group Discussions
12:15-12:45 p.m.	**GENERAL SESSION** Summarization and charge to the conference—Carol Kahler, Ed.D.

Sponsored by:

Southern Regional Education Board
130 Sixth Street, N.W.
Atlanta, Georgia 30313

and

American Association of Junior Colleges
1315 16th Street, N.W.
Washington, D. C. 20036

and

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Conference on Health Technology Education

Conference supported by a grant from the U.S. Department of Health, Education and Welfare, Office of Education, Bureau of Research, Division of Adult and Vocational Research.

RIVIERA OF ATLANTA MOTEL
ATLANTA, GEORGIA

DECEMBER 11-12, 1967

SOUTHERN REGIONAL EDUCATIONAL BOARD-AMERICAN ASSOCIATION OF JUNIOR COLLEGES

NATIONAL HEALTH COUNCIL CONFERENCE

RIVIERA OF ATLANTA MOTEL, ATLANTA, GEORGIA

DECEMBER 11-12, 1967

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SUMMARY OF CONFERENCE ON HEALTH TECHNOLOGY EDUCATION

JANUARY 15-16, 1968

SALT LAKE CITY, UTAH

The basic charge of this Conference is to create a leadership group that can help to establish health technology curricula in community colleges. In the West, because of the stage of development of community colleges, the first job may be to establish community colleges which can offer health technology curricula.

The Community College Movement

One of the things that came through very strongly is that the community college movement is vital and rapidly growing. Fantastic growth of the community college -- 1100 of them by 1972, 923 now -- this has to be seen in the same picture as the fantastic growth of such institutions as the Kaiser-Permanente Service Foundation. The Permanente operation should be thought of as a microcosm of what is going to happen to the demand for health care all over this country. People are going to demand prepaid comprehensive health care that goes from the cradle to the grave. This is the challenge that lies before us. We have to see it as related to the rapidly-growing community colleges and their capability to cope with this challenge. We are in no danger of training too many health technologists. The White Queen said to Alice, "you have to run just as fast as you possibly can to stay in the same place." It would seem that we are in a similar position.

Community College Role in Health Career Training

The unique appropriateness of the community college to help us cope with this problem was discussed. Its flexibility, its closeness, and its responsiveness to the grass roots was emphasized. The community college is a vital part of three extremely existing and important revolutionswhich are going on right now. The first is the knowledge revolution. The second is the rapid development of the team approach as a means of delivering health care. There is a concomitant need for health technologists as part of that team approach. And the third revolution is the irrevocable commitment of the American people to mass education beyond the high school. With the growth of the community college movement at the very time when these revolutions are taking place, there is no doubt that the roles of community colleges will be integrated into three revolutions as long as we can see into the future.

With these kinds of revolutionary pressures the question surely will be asked whether or not the demand for health and educational services will not far outstrip our ability to pay for them. There has never been a time when the American people could not pay for the things they really wanted. If a system of community colleges with comprehensive programs for training technologists is desired, we will have it, and in an efficient and economical way. Indeed, by using some of the techniques of inter-institutional cooperation, by using modern management techniques, and by cooperating among states in the development of these curricula to avoid unnecessary duplication, we can do the job.

Concern for Quality Education

There are some other themes which are also relevant to planning for health technology programs. The first of these is the matter of standards. We talked a good deal about the need for flexibility in standards. We said, we do not want the professions to place the dead hand of the past on the development of the new health technologies. Furthermore, we do not want the accrediting agencies to suck us dry with repeated accreditation visitations.

There are many reasons for this concern for quality. One of them is the ever-present memory of the low standards of medical education at the end of the 19th and early 20th century. You might call this the Flexner syndrome. In an effort to improve medical education, the Flexner Report pointed up several areas of essential educational reform. The Report specifically cautioned against establishing hospital schools which are not associated with a university. As a result of the report, the medical professions have imposed rigid standards for medical education. Medicine has resolved that medical education will maintain its quality through strict standards. Our ultimate task in coping with this problem is to strike a balance between quality and flexibility at this time when we must be free to develop the new kinds of curricula that are needed to provide the people who can cope with the new technologies.

Recruiting for Health Careers

Recruitment is a crucial concern at the local level. This is where the national and regional efforts really come into focus. The objective of recruitment is not only the production of warm bodies to enter health curricula, but also providing maximum educational opportunity for young people particularly in remote areas. Another function of recruitment is to keep the public, the students and their parents, informed about the rapid changes in the health fields so that they know what kinds of careers are being opened to them all the time.

Coordination through Communication

The discussion of communication was complicated and pervasive throughout the whole conference. (To be specific, one participant talked about the problems within his organization. He said that the people there had little information about the community college programs that was perfectly relevant to their manpower needs.) He complained that his department heads and his administrators in the hospitals had very poor communications with the clinicians. A health practitioner complained that he didn't understand the lingo of the junior college people. And another participant suggested that one of the things which might solve the communications problem within the colleges would be a coordinator for health occupations who would be a generalist. The coordinator could stand astride both the clinical interests and the educational interests and talk both languages.

Continuing on the matter of communication, are the technologists being utilized to their fullest potential?

This is a pervasive problem - this communication between educators and the supervisors and employers of the personnel. Another complained that the employers wanted people who would come in, start work on Day One, and just keep on doing what they had been doing all along. One of the problems implicit in several of the discussions is that the educators are reluctant to dignify the practitioners as educators. They really are not quite willing yet to admit them into the educational process. This grows out of an earlier need by the educators to maintain control over the clinical situation. They felt that only this way could the clinical experience be educational. I think that is now an extreme position and one on which there can be a giving and an easing. Today, we must think more in terms of the clinicians and the educators working together to develop educational opportunities for young people.

A word about the Guide itself and its relationship to communications. It is quite clear that the Guide presents a model for communication among the three major groups involved. But as Leonardo daVinci well knew, a model does not make a reality. To begin action until you have looked hard at the model for your communications process is a mistake. You have to plan your strategy, you have to think through the processes by which you are going to achieve the development of new technologies and then move into action. We're all much too predisposed to act and then think about whether we acted in the right way.

Curriculum Development

Another one of the major themes coming forth from these discussions had to do with the curricula. One group talked about the core curricula for health programs and emphasized the importance of good, strong, pervasive, general education content, or liberal arts content. They said there should be as much liberal arts content as possible in this core curricula. There is an American Association of Junior Colleges project underway to take a look at subject. We will all need to watch it rather closely. This core curricula might be described as the ETV effect. You know, when ETV first came out they told us it would be a great democratizing influence because everybody could hear and see Robert Frost read his poetry and hear John Kenneth Galbraith talking about the new industrial society. This is extremely exciting. The same thing can be true for the core curricula, because in a state or a region or nationally, we can get together the best people there are to develop this core curricula and it can be made available to everybody, just like Galbraith and Frost. They can use it as they wish and they can embroider it, but it is a source of quality in the development of the curricula.

The other strong theme under curricula was the need to develop the "ladder" concept to keep young people from getting caught in occupational cul-de-sacs and to open the system of education so that young people can move through it as they realize new potentials in themselves. They must be able to continue to grow and develop and advance in their careers.

Inter-Institutional Cooperation

Then there was a good deal of talk and interest in inter-institutional cooperation such as the exchange of students among junior college districts and dollars to pay the expense of their going to another district. As well as coordinating the development of various technology curricula so that there wouldn't be unnecessary duplication. Western Interstate Commission for Higher Education is talking all the time about the interstate exchange of students and about ways of getting students flowing into under-enrolled curricula at various institutions.

Another exciting point was the development of a consortium for experimentation in community colleges that are developing health technology curricula. An elaboration of this suggestion could be accomplished by organizing a system of sliding consortia. Membership in a consortium would be flexible, comprised of all the

colleges in one region that were developing a certain kind of curriculum. Membership in the consortium could enable these colleges to talk and compare notes. Once these colleges established their curriculum they would discontinue their consortium membership and another group of colleges with a common curriculum problem would join the consortium, thus developing a system of sliding consortia. The financing and organizing of such a consortium is something that we might want to look into.

Identifying Available Resources

Some people said that they needed more information about various kinds of long-term consultants they could work with. Others said they just need occasional ad hoc consultation. Apparently, we need more access to the various resources that have been identified. One worthwhile project which was suggested was to complete the incomplete listing to resources in the Guide. We should not only complete it for now, but undertake to keep it up to date and put it in the hands of as many people as possible so that when they face these problems they have a comprehensive listing of the resources that they can use. The exciting thing about resources is that they're available if you only know how to pull the trigger on them. They're at your fingertips and all you have to know is who to talk with and where to go so that you can get your hand around them and use them and put them to work for you.

There are two valuable things that can be taken home from this meeting. One of them is the Guide which is the succinct substance for future planning. The other thing is a symbol -- the list of participants for this meeting. It symbolizes some of the new starts in communication that have made getting acquainted with people hopefully many outside your own area of specialty. And it is this list of participants that will give you the resources that you will need some day to continue the processes that have been started in this Conference. If you use these two new resources, the participants and the Guide, you are going to be in a position to influence education for the health technologists. In this way you can influence mightily the future of patient care in this region. And that's a big responsibility to take home.

HEALTH TECHNOLOGY EDUCATION PROGRAM

SUNDAY, JANUARY 14

8:00-9:00 p.m.	Pre-conference meetings of:
	WICHE-AAJC-NHC planning committees, speakers, panel members, discussion leaders and recorders

MONDAY, JANUARY 15

8:30-9:00 a.m.	**REGISTRATION**
9:00-9:45 a.m.	**GENERAL SESSION**—Ramada Room Presiding: Merle Allen, Ed.D.
	Overview of Health Technology Education: Kenneth Skaggs
9:45-10:00 a.m.	Coffee Break
10:00-11:30 a.m.	**GENERAL SESSION** Presiding: Kevin Bunnell, Ed.D.
	Panel: Response to the Guidelines: The Realities of Planning!
	Junior College: Paul A. Elsner, Ed. D.
	Health Professional: Alfred M. Popma, M.D.
	Health Facilities Administrator: Edward Bell, Ph.D.
	Question and Answer Period

MONDAY, JANUARY 15

11:30-12:30 p.m.	Small Group Discussions
	Group I — Promenade Room Group II — Brighton Room Group III — Granite Room
12:30-1:45 p.m.	Lunch (on your own)
1:45-4:15 p.m.	Small Group Discussions
4:30-5:30 p.m.	**GENERAL SESSION**—Report Back Presiding: Levitte Mendel

TUESDAY, JANUARY 16

8:30-10:00 a.m.	**GENERAL SESSION** Presiding: Carol Kahler, Ed.D. Identification of Existing Resources and Needs for Development of New Resources
	Session Leader: Douglas Burris
10:00-10:15 a.m.	Coffee Break
10:15-12:00 noon	Small Group Discussions
12:15-12:45 p.m.	**GENERAL SESSION** Presiding: Kevin Bunnell, Ed.D. Summarization and charge to the conference— A. N. Taylor, Ph.D.

Sponsored by:

Western Interstate Commission for Higher Education
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and

American Association of Junior Colleges
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Conference on Health Technology Education

Conference supported by a grant from the U.S. Department of Health, Education and Welfare, Office of Education, Bureau of Research, Division of Adult and Vocational Research.

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1000 South State Street
Salt Lake City, Utah

January 15-16, 1968

WESTERN INTERSTATE COMMISSION FOR HIGHER EDUCATION-

AMERICAN ASSOCIATION OF JUNIOR COLLEGES-

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JANUARY 15-16, 1968

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AMERICAN ASSOCIATION OF JUNIOR COLLEGES-

NATIONAL HEALTH COUNCIL

COMMITTEE ON HEALTH TECHNOLOGY EDUCATION

Selected Committee members from the American Association of Junior Colleges-National Health Council Committee on Health Technology Education and selected consultants were invited to meet with the staffs of the American Association of Junior Colleges and the National Health Council in Washington, D. C. on February 16-17, 1968. (Agenda and list of participants attached.)

This meeting was convened to report on activities relative to the distribution and implementation of A GUIDE FOR HEALTH TECHNOLOGY PROGRAM PLANNING and to identify additional steps which should be taken to assure maximum utilization of the Guide.

In addition, the participants were requested to review the tentative proposal for the continuance of the joint-activities of the American Association of Junior Colleges and the National Health Council.

Distribution and Implementation

Reports of the three workshops and the current status of the distribution of the Guide were made to the group by the staff of both organizations.

Twenty-two thousand copies of the Guide have been printed. Of this number approximately 17,000 Guides have been distributed by both agencies. Junior colleges, state departments of education, national and state professional organizations, voluntary health agencies, health careers councils, professional schools, libraries and individuals have received the publication.

Recommendations

1. Because distribution of the Guide does not assure its utilization, workshops and conferences should be encouraged at the local, state, regional, and national level by both AAJC-NHC.

2. Editors and popular journals, magazines, and papers, should be encouraged to report the availability of the Guide.

3. The members of the National Association of Science Writers should be made aware of the Guide.

4. A copy of the Guide should be sent for review to Science Service, Washington, D. C.

5. The national health professional organizations should be requested to plan budgetary commitments for quantity purchase of the Guide for the constituents and membership.

6. Publishers with interest in the health field should be requested to give publicity to the Guide.

7. The American Vocational Association should be requested to review the Guide in its publications.

8. Divisions of the Federal government should have the Guide brought to their attention and their cooperation requested in publicizing it.

9. The American Personnel and Guidance Association should be encouraged to publicize the Guide.

There was consensus that A GUIDE FOR HEALTH TECHNOLOGY PROGRAM PLANNING while not a panacea was a most timely, necessary, and important document. That it needed widespread distribution with concentrated effort to assure maximum utilizations and implementation.

Projected Program

There was consensus that the American Association of Junior Colleges and the National Health Council should continue the joint-Committee to explore the many problems and needs of common interest.

A proposal for the projected program was presented for discussion. This proposal had the following goals:

1. To economically extend the number of health practitioners associations ready to perform the tasks of cooperative program development as proposed in the GUIDE FOR HEALTH TECHNOLOGY PROGRAM PLANNING.

2. To extend concepts of relatedness among programs for the education of health personnel in order to demonstrate curriculums illustrating feasible correlations with positive effects on articulation, recruitment, student flexibility and savings of human and material resources in educational programs for health personnel.

Following a day of discussion, the Committee recommended that the project be broadened to include three areas:

1. that the goals of the project include the educational programs in senior colleges and present the broad spectrum of education for health occupations;

2. that the "families" of occupations be identified as an extension of goal #2 above;

3. that job analysis and job descriptions resulting from the professional association's evaluations be adopted to encourage educational programs which prepare workers who are universally acceptable as employees anywhere in the nation.

This Ad Hoc Committee agreed to provide consultation to the American Association of Junior Colleges and the National Health Council in developing the proposal.

AMERICAN ASSOCIATION OF JUNIOR COLLEGES-

NATIONAL HEALTH COUNCIL

COMMITTEE ON HEALTH TECHNOLOGY EDUCATION CONFERENCE

MARRIOTT HOTEL, WASHINGTON

FEBRUARY 16-17, 1968

A G E N D A

FRIDAY, FEBRUARY 16, 1968

2:00 - 5:30 P. M.	Review of activities relating to A GUIDE FOR HEALTH TECHNOLOGY PROGRAM PLANNING:
	a) Distribution
	b) Implementation

SATURDAY, FEBRUARY 17, 1968

9:00 - 12:00 noon	Review of Projected Program for American Association of Junior Colleges-National Health Council Joint-Committee
12:00 - 1:30 P. M.	LUNCH
1:30 - 3:30	Review continued
3:30 - 4:00	Summary

AMERICAN ASSOCIATION OF JUNIOR COLLEGES-

NATIONAL HEALTH COUNCIL

COMMITTEE ON HEALTH TECHNOLOGY EDUCATION CONFERENCE

MARRIOTT HOTEL, WASHINGTON

FEBRUARY 16-17, 1968

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Select from column "B" the statistic or statistical term which fits the one listed in column "A".

Insert the number of the correct response in the parenthesis in front of the pertinent item listed in column "A".

Column "A"

( ) gives more weight to extreme deviations from the mean

( ) cumulative percentage distribution

( ) a CEEB score of 650

( ) the quickest index of dispersion

( ) the number of standard deviation units a given raw score deviates from the mean of a given group

( ) to be used with a large sample when the relevant measure of variability should be corrected for grouping errors

( ) the index of dispersion when a distribution is truncated at one end

( ) the value of a raw score below which fall a certain percentage of the cases

( ) the most reliable measure of variability

( ) scores from different tests can be placed on a comparable basis

( ) index of dispersion when further computations are likely to be needed, such as the variance

( ) percentage of cases falling below a certain raw score

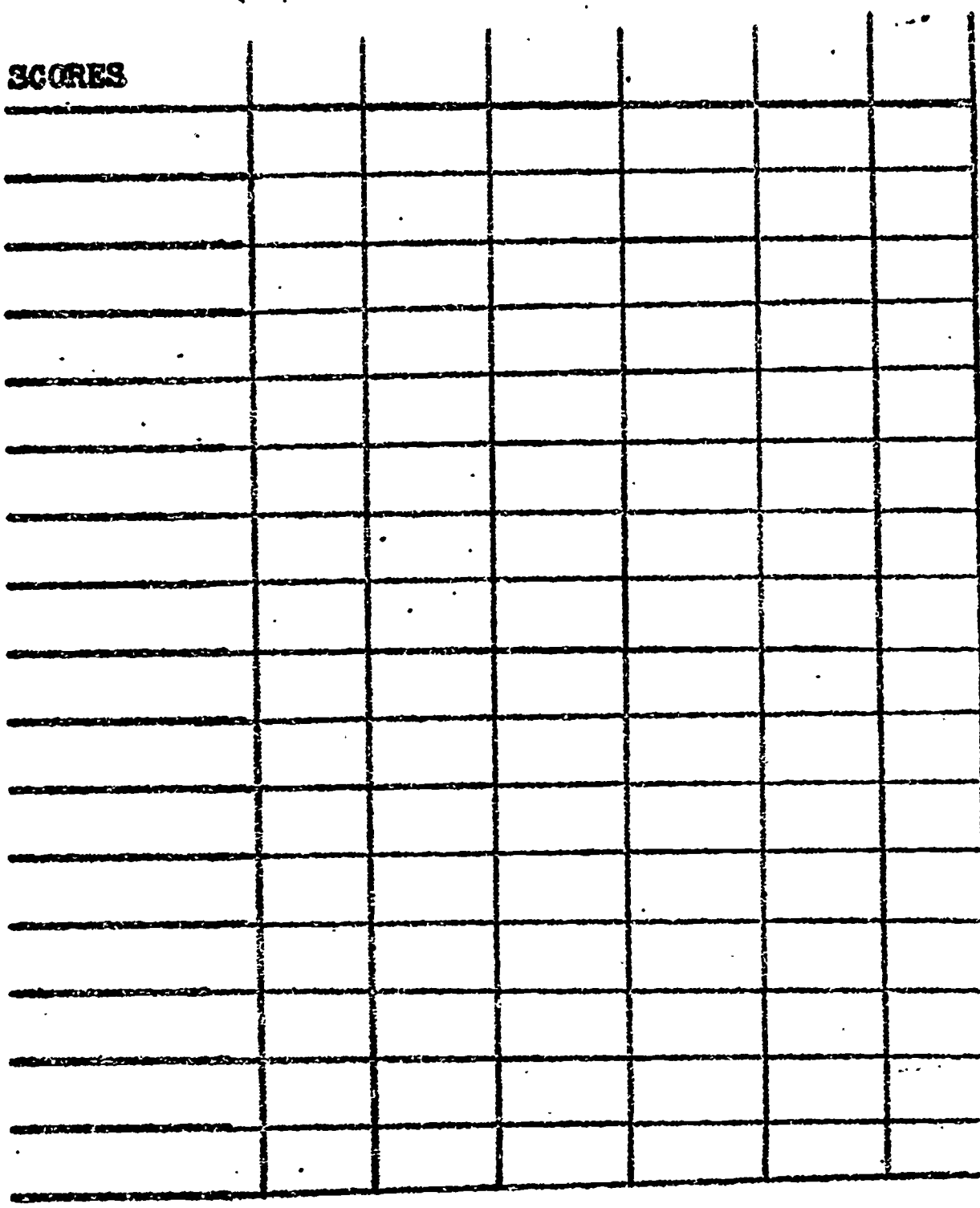
Column "B"

1. S-score
2. a standard score
3. ordinate
4. range
5. Sheppard's quartile deviation correction for [illegible]
6. centile points
7. decile
8. normal distribution [illegible]
9. Sheppard's formula
10. standard deviation
11. ogive
12. average deviation
13. centile rank
14. stanine
15. semi-interquartile range

Statistics- Dr. C. Lang

Following are scores made by students on a general science test:

33	71	54	67	38	15	44	18	25
42	21	68	03	46	38	36	41	
47	43	13	45	58	44	41	24	
61	37	50	47	35	40	39	32	
43	60	38	49	44	29	22	08	
52	43	40	59	55	27	36	33	



Determine: Arithmetic mean_____; Median_____Standard deviation_____

Semi-interquartile range_____

Statistics: Dr. G. Lang

(1) Round off your computed statistics to the nearest whole number. Use these numbers to answer the questions posed below.

(2) Assume a normal distribution.

(A) Approximately 1/6 of the students have a score which is larger than _____

(B) Approximately 14% of the students have scores between _____ and _____

(C) John has a score of 55. This places him _____ standard deviation units _____ the mean.

(D) Mary has a score of 10. This places her _____ standard deviation units _____ the mean.

(E) The scores of the middle 50% of the students fall between _____ and _____. (Round off to the nearest whole numbers)

(F) The score distribution is _____ skewed. Why?

(G) Find z-scores for each of the following raw scores:

X	Z
10	_____
50	_____
60	_____
70	_____

5. Describe the type of responsibility you had for the planning and execution of research projects (funded or non-funded) at the time of attending the lectures.

___1 No personal administrative responsibility for a research project
___2 Personal responsibility for one or more projects for which I am the principal investigator
___3 Administrative responsibility for an office directing one or more research projects
___4 Responsibility for the management of a project under the direction of a principal investigator
___5 Other (Specify)_____

6. Indicate the type(s) for which you had responsibility according to you response to Item 5: (check more than one if needed)

___1 Non-funded project
___2 Locally funded project
___3 State funded project
___4 Federally funded project
___5 Other (Specify)_____

7. How did you become aware of the PERT dissemination lecture series?

___1 Announcement distributed at 1965 AERA meeting
___2 Announcement in local news media (newspaper, radio, etc.)
___3 Announcement in professional journals or newsletters (Phi Delta Kappan, American Psychologist, etc.)
___4 Conversation or note from colleague
___5 Other (Specify)_____

8. Please indicate the conditions under which you attended the PERT lectures:

___1 Designated representative of an agency of institution
___2 Volunteer attendee because of personal interest
___3 Other (Specify)_____

9. Describe your attendance at the dissemination lectures:

___1 Attended only first day
___2 Attended only the second day
___3 Attended both days
___4 Attended only parts of any one day

10. Were you acquainted with PERT prior to attending the dissemination lectures?

___1 Yes
___2 No

IF YOU ANSWERED YES TO ITEM 10, RESPOND TO ITEMS 11 THRU 15. IF NO, CONTINUE ON AT ITEM 16.

11. How would you describe your knowledge about PERT?

___1 Little knowledge
___2 Some knowledge
___3 Much knowledge

(Continued on Page 3)

Select from column "B" the statistic or statistical term which fits the item listed in column "A".

Insert the number of the correct response in the parenthesis in front of the pertinent item listed in column "A".

Column "A"

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13. centile rank

14. stanine

15. semi-interquartile range

Some Correlational Methods and Their Uses

Dr. Gerhard Lang

Correlational Method	When these methods are used: Variable "X"	Variable "Y"	Situation	Measurement Level	Range	Test of significance	Degrees of freedom
Product-moment $r_{xy} = \frac{\Sigma xy}{\sqrt{(\Sigma x^2)(\Sigma y^2)}}$	continuous	continuous	1- linearity 2- symmetry 3-unimodality	Interval	-1.0 to +1.0	if $N < 30$ use t distribution; if $N > 30$ use normal prob. table. $Z = r\sqrt{N-1}$	$N-2$ ---
Rank-difference $R_{xy} = 1 - \frac{6\Sigma D^2}{N(N^2-1)}$	continuous	continuous	1- scores expressed in ranks or 2- only ranks are available	Ordinal	-1.0 to +1.0	if $N < 30$ use a special table; if $N > 30$ use normal prob. table	--- ---
Contingency $C = \sqrt{\frac{\chi^2}{N+\chi^2}}$	discrete	discrete	1-only frequencies are available	Nominal	0 to +1.0	χ^2 distribution $\chi^2 = \sum\left[\frac{(F_o-F_e)^2}{F_e}\right]$	$(k-1)(r-1)$
Biserial $r_{bis} = \frac{\bar{X}_p - \bar{X}_q}{s_t} \times \frac{pq}{y}$	continuous	dichotomous	1- dichotomy in "y" is arbitrary; actual distribution is assumed to be continuous	Interval	unlimited in either direction	transformation to z^*	---
Point Biserial $r_{pb} = \frac{\bar{X}_p - \bar{X}_q}{s_t}\sqrt{pq}$	continuous	dichotomous	1-dichotomy in "y" is distinct	Interval	-1.0 to +1.0	(same as product-moment)	(same as product-moment)
Correlation ratio $\eta_{x.} = \frac{s_{\bar{x}}}{s_x}$ $\eta_{y.} = \frac{s_{\bar{y}}}{s_y}$	continuous	continuous or continuous	1- lack of linearity	Interval	0 to +1.0	F distribution	$n_1 = k-1$ $n_2 = N-k$

Product-moment correlation

Definitional formula: $r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \Sigma y^2}}$ (# 7.2)

Computational formula (raw scores): $r = \frac{N\Sigma XY - \Sigma X \Sigma Y}{\sqrt{[N\Sigma X^2 - (\Sigma X)^2][N\Sigma Y^2 - (\Sigma Y)^2]}}$ (# 7.3)

Computational formula (bivariate frequency distribution):

$$r = \frac{N\Sigma x'y' - (\Sigma f x')(\Sigma f y')}{\sqrt{[N\Sigma f x'^2 - (\Sigma f x')^2][N\Sigma f y'^2 - (\Sigma f y')^2]}}$$

Student	Test X	Test Y
1	24	29
2	22	40
3	44	36
4	72	32
5	25	46
6	30	47
7	38	49
8	54	53
9	37	51
10	61	50
11	56	45
12	42	48
13	30	25
14	42	48
15	28	28
16	32	40
17	24	37
18	42	58
19	54	54
20	42	44
21	67	48
22	58	48
23	57	33
24	49	47
25	87	52
26	34	48
27	38	46
28	32	33
29	52	40
30	60	49
31	29	49
32	50	55
33	76	43
34	40	38
35	32	56
36	60	45
37	56	67
38	61	42
39	17	44
40	61	48

(A) Plot a scatter diagram, using the following reference points:

	Test X	Test Y
Interval size.....	10	5
Lowest interval.....	10-19	25-29
Origin of coded values: interval	40-49	45-49

(B) Compute the product-moment coefficient of correlation

(C) Interpret your finding

Student	Test X	Test Y
1	76	63
2	90	85
3	90	90
4	81	63
5	88	87
6	76	59
7	78	58 (64)
8	72	69
9	73	58
10	69	50
11	73	61
12	86	82
13	70	71
14	61	61
15	64	67
16	68	64
17	65	68
18	73	67
19	74	77
20	72	72
21	70	56
22	65	67
23	98	89
24	78	63
25	83	50
26	77	79
27	53	77
28	64	66
29	62	41
30	62	33
31	77	74
32	67	71
33	77	68
34	54	69
35	51	44
36	73	77
37	88	92
38	83	84
39	70	73
40	64	56

Student	Test X	Test Y
41	38	41
42	44	22
43	72	60
44	86	83
45	68	69
46	77	35
47	50	43
48	75	29
49	59	56
50	76	35

(A) Plot a scatter diagram, using the following reference points:

	Test X	Test Y
Interval size	5	10
Lowest interval	30-34	10-19
Origin of coded values: interval	70-74	60-69

(B) Compute the product-moment coefficient of correlation

(C) Interpret your finding

X	Y	R_X	R_Y	$D_{R_X-R_Y}$	$D^2_{R_X-R_Y}$
47	75				
74	79				
52	85				
48	50				
35	49				
35	59				
48	75				
82	98				
72	102				
56	87				
59	70				
73	92				
60	54				
55	75				
48	66				
					Σ

X	Y	R_x	R_y	D_{x-y}	D^2_{x-y}
27	39				
15	23				
14	12				
21	20				
25	20				
2	6				
15	37				
34	28				
37	46				
38	46				
22	41				
28	5				
40	58				
12	22				
31	26				
11	13				
26	0				
21	21				
23	20				
29	24				
				Σ	

Research Training Institute for Junior College Personnel

Quiz:

I- (36 points) In the space at the left of each item, place a + if you think that the item is TRUE; place a O if you think that it is FALSE.

___ 1. If the five lowest scores in a set of scores are increased, the standard deviation of the set will be decreased.

___ 2. A score of 70 in a distribtuion with a mean of 55 and a standard deviation of 10 is better than a score of 100 in a distribution with a mean of 85 and a standard deviation of 8 .

___ 3. There are usually fewer cases between the 20th and the 30th centiles than between the 50th and the 60th centiles of the same distribution.

___ 4. The crude mode is the number of cases in the class interval containing the largest frequency.

___ 5. In any distribution the algebraic sum of the deviations from the mean equals zero.

___ 6. High correlations (above plus .95) indicate that there is a causal relationship between the variables correlated.

___ 7. The value of Chi Square is always the same at the .01 level of significance.

___ 8. The effect of tied scores is to overestimate the value of the Spearman Rho.

___ 9. The equation Y = X - 3 suggests a Pearson r_{xy} which is exactly plus .97 .

___ 10. In Chi Square, the sum of the expected frequencies is usually greater than the sum of the obtained frequencies.

___ 11. Pearson's r_{xy} can only be used when the variables X & Y are expressed in the same score units.

___ 12. A r_{xy} of .80 is about three times as strong as a r_{xy} of .40 in depicting the relationship between the variables X & Y.

___ 13. The assumed mean must be taken at the interval containing the exact mean.

___ 14. One class (No 40) had a test mean of 36 and another class (No 30 ~~28~~) has a test mean of 40. Therefore, the test mean for both classes combined would be 38.

___ 15. In computing the median we consider the scores as concentrated at the midpoint of the class intervals.

___ 16. The median score can be obtained by taking half the difference between the lowest and the highest scores and adding it to the lowest score.

17. A class of 20 pupils had a median of 62.0; another class of 20 had a median of 72.0. A median for the two classes combined can be obtained from these data.

18. The height of a given section of a histogram is proportional to the number of pupils making the score on the corresponding portion of the base line.

19. The actual distance of a score from the median is not taken into account in computing Q.

20. The standard deviation can be found without first finding the mean.

21. A standard deviation laid off on one part of the base line will include the same number of cases as a standard deviation laid off on any other section of the base line.

22. Data representing the nominal level of measurement cannot be treated with any currently known correlational method.

23. In a normal distribution, there are just as many points on the scale (or base line) between the 10th centile and the 30th centile as between the 40th and 60th centiles.

24. The assumption of normality is necessary in the case of Chi Squares.

II- (25 points) Briefly identify each of the following statistics. Why and when are they used?

Standard score

Product-moment correlation coefficient

Rank-difference correlation coefficient

Chi Square

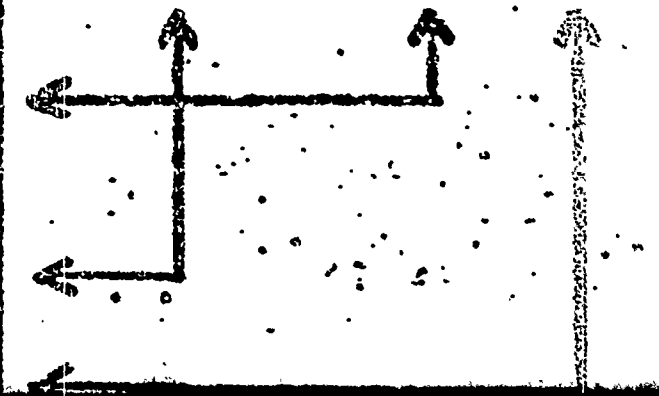
Standard error of r_{xy}

III- (9 points) Calculate the appropriate correlation coefficient using data to be announced by your instructor.

Answer: _____

Ex. Correct Less

	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79			f_x	y'	$f_x y'$	$f_x y'^2$	Σx	$\Sigma \Sigma x$
50-59			(F)			7 4	2 2	1 1			4	3	12	36	12	36
40-49			(F)		6 6	3 3	3 3	1 1			13	2	26	52	25	50
30-39			1 1	4 4	9 9	3 3					17	1	17	17	14	14
20-29		3 3	5 5	8 8	7 7	1 1					24	0	0	0	-2	0
10-19	2 2	4 4	4 4	3 3	3 3						16	-1	-16	16	-15	15
0-9	2 2	2 2	1 1	1 1							6	-2	-12	24	-11	22
f_x	4	9	11	16	25	8	5	2			80		27	145	23	137
x'	-3	-2	-1	0	1	2	3	4								
$f_x x'$	-12	-18	-11	0	25	16	15	8			23					
$f_x x'^2$	36	36	11	0	25	32	45	32			217					
$\Sigma y'$	-6	-8	-5	-1	18	12	12	5			27					
	18	16	5	1	18	24	36	20			137					



IV-1 The administration of Kenny College would like to see the grade distribution in their general education courses approximate the following norm:

Grade "A" - 8%
Grade "B" -26%
Grade "C" -40%
Grade "D" - 20%
Grade "F" - 6%

Mr. Marc, an instructor in Education 1015.1 gave the following final grades:

Grade "A" - 8 students
Grade "B" -16 "
Grade "C" -15 "
Grade "D" - 9 students
Grade "F" - 2 "

Did Mr. Marc's grade distribution depart significantly from that suggested by his college officials?

_____ 1. Calculate Chi Square

_____ 2. How many degrees of freedom are there in this problem?

_____ 3. How large must Chi Square be in order for it to be significant at the .05 level?

_____ 4. Is this Chi Square which you have obtained significant at the .05 level?

_____ 5. What is the probability of getting a Chi Square as large as the one obtained by you?

6. Briefly state the conclusion(s) which can be drawn on the basis of the statistical evidence?

Statistics
Dr. O. Lang

IV-B The purpose of the study was to determine the relative effectiveness of three types of therapy:

"O-F" = Orthodox Freudian Psychoanalysis

"N-C" = Non-directive Counseling

"S-T" = Sullivanian Therapy

"Effectiveness" was operationally defined as therapist's judgment of success or failure.

Twenty subjects were treated by "O-F" , 40 by "N-C", and 60 by "S-T".

Therapy was judged "successful" in the case of 17 clients treated by the "O-F"-method, 27 treated by the "N-C"-approach, and 46 treated by the "S-T"-system.

Is success of the therapeutic process related to type of therapy?

_____ 1. Calculate Chi Square

_____ 2. How many degrees of freedom are there in this problem?

_____ 3. How large must Chi Square be in order for it to be significant at the .05 level?

_____ 4. Is the Chi Square which you have obtained significant at the .05 level?

_____ 5. What is the probability of getting a Chi Square as large as the one obtained by you?

6. Briefly state the conclusion(s) which can be drawn on the basis of the statistical evidence.

Analysis of Variance: One-way Classification

n = number of cases per group
k = number of groups
N = $n_1 + n_2 + \dots n_k$
j = specific group

I. Groups of equal size

Total sum of squares:

$$\sum\sum (x - \bar{x})^2 = \sum\sum x^2 - \frac{(\sum\sum x)^2}{N}$$

Within sum of squares:

$$\sum_{j}^{j}\sum(x - \bar{x}_j)^2 = \frac{1}{n}\left[n\sum\sum x^2 - \sum_{j}^{j}(\sum x)^2\right]$$

Between sum of squares:

$$n\sum_{j}^{j}(\bar{x}_j - \bar{x})^2 = \frac{1}{kn}\left[k\sum_{j}^{j}(\sum x)^2 - (\sum\sum x)^2\right]$$

Table 1

Scores Made by Subjects in Five Groups

Group				
1	2	3	4	5
5	8	9	11	17
5	7	3	12	16
1	4	9	15	18
5	4	10	11	11
8	7	5	10	15
1	7	11	8	9
2	5	9	13	18
2	6	6	13	13
2	8	7	5	12
8	14	6	7	15
4	8	16	11	8
1	5	12	12	13
3	1	11	12	7
4	5	15	9	15
4	8	13	16	15
2	5	4	7	13

Group	1	2	3	4	5	
n	16 +	16 +	16 +	16 +	16 = N = 80	
ΣX	57 +	102 +	146 +	172 +	213 = $\Sigma\Sigma X$ = 692	
ΣX^2	279 +	768 +	1,550 +	1,982 +	3,039 = $\Sigma\Sigma X^2$ = 7,638	
$(\Sigma X)^2$	3,249 +	10,404 +	21,316 +	29,584 +	46,225 = $\frac{1}{n}(\Sigma X)^2$ = 110,778	
$\bar{X}_j$	3.56	6.38	9.12	10.75	13.44	$\bar{\bar{X}}$ = 8.63

$$\text{Total SS} = \Sigma\Sigma(x - \bar{\bar{x}})^2 = 7,638 - \frac{(692)^2}{80} = 1652.20$$

$$\text{Within SS} = \frac{1}{n}\Sigma\Sigma(X - \bar{x}_j)^2 = \frac{1}{16}\left[16(7,638) - 110,778\right] = 714.38$$

$$\text{Between SS} = n\Sigma(\bar{x}_j - \bar{\bar{x}})^2 = \frac{1}{80}\left[5(110,778) - (692)^2\right] = 937.82$$

Total SS = Within SS + Between SS
1652.20 = 714.38 + 937.82

Analysis of Variance for Data of Table 1

Source of Variation	Sum of Squares	d.f.	Variance estimate (Mean Square)	F	P
Between	937.82	4	$234.46 = s^2_b$	24.60	<.001
Within	714.38	75	$9.33 = s^2_w$		
Total	1652.20	79			

Comparison of two means following an F-test

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s^2_w}{n_1} + \frac{s^2_w}{n_2}}} = \frac{6.38 - 3.56}{\sqrt{\frac{2.53}{16} + \frac{2.53}{16}}} = 2.59$$

d.f. = 75 $p < .02$

II. Groups of unequal size

Total sum of squares:

$$\Sigma\Sigma(x - \bar{x})^2 = \Sigma\Sigma x^2 - \frac{(\Sigma\Sigma x)^2}{N}$$

Within sum of squares:

$$\sum_{j}^{j}\Sigma(x - \bar{x}_j)^2 = \Sigma\Sigma x^2 - \sum_{j}^{j}\frac{(\Sigma x)^2}{n_j}$$

Between sum of squares:

$$\sum_{j}^{j} n_j(\bar{x}_j - \bar{x})^2 = \sum_{j}^{j}\frac{(\Sigma x)^2}{n_j} - \frac{(\Sigma\Sigma x)^2}{N}$$

Table 2

Scores Made by Subjects in Four Groups

Group 1	Group 2	Group 3	Group 4
5	9	8	1
7	11	6	3
6	8	9	4
3	7	5	5
9	7	7	1
7		4	4
4		4	
2			

n	8	+ 5	+ 7	+ 6	$= N = 26$
Σx	43	+ 42	+ 43	+ 18	$= \Sigma\Sigma x = 146$
Σx^2	269	+ 364	+ 287	+ 68	$= \Sigma\Sigma x^2 = 988$
$\frac{(\Sigma x)^2}{n_j}$	231.13	+ 352.80	+ 264.14	+ 54.00	$= \sum_{j}^{j}\frac{(\Sigma x)^2}{n_j} = 902.07$
$\bar{x}_j$	5.38	8.40	6.14	3.00	

$$\text{Total SS} = \Sigma\Sigma(x - \bar{x})^2 = 988 - \frac{(146)^2}{26} = 168.15$$

$$\text{Within SS} = \sum_{j}^{j}\Sigma(x - \bar{x}_j)^2 = 988 - 902.07 = 85.93$$

$$\text{Between SS} = \sum_{j}^{j} n_j(\bar{x}_j - \bar{x})^2 = 902.07 - \frac{(146)^2}{26} = 82.22$$

Total SS = Within SS + Between SS
168.15 = 85.93 + 82.22

Analysis of Variance for Data of Table 2

Source of Variation	Sum of Squares	d.f.	Variance Estimate (Mean Square)	F	P
Between	82.22	1	$27.41 = s^2_b$	7.01	<.01
Within	85.91	22	$3.91 = s^2_w$		
Total	168.13	23			

Comparison of two means following an F-test

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s^2_w}{n_1} + \frac{s^2_w}{n_2}}} = \frac{5.38 - 8.40}{\sqrt{\frac{3.91}{8} + \frac{3.91}{3}}} = 2.68$$

d.f. = 22 P <.02

The PERT Project
School of Education
The Ohio State University
41 West 11th Avenue
Columbus, Ohio 43210

PERT Dissemination Lecture Survey

Directions: Unless indicated otherwise, respond to each item by marking an "X" in the space before the appropriate response. Note that some items ask for more than one response. If additional explanatory material is necessary, please write in the margin by the item for which the material is relevant.

1. What is your highest earned degree?

   ___1 No degree
   ___2 Bachelor's
   ___3 Master's
   ___4 Doctorate

2. Please provide the following information concerning your position at the time you attended the lectures (March-April 1965)

   _____
   Your title

   _____
   Branch, Department, or Division

   _____
   Institution or agency

   _____
   City and State

3. What was the general type of institution or agency with which you were connected at the time of attending the PERT lectures?

   ___1 College or university
   ___2 Private Foundation
   ___3 Governmental agency (federal)
   ___4 Governmental agency (state)
   ___5 Private or public school system
   ___6 Business or industry
   ___7 Military
   ___8 Other (list)_____

4. What was the principal function of the unit to which you were attached?

   ___1 Administration
   ___2 Research
   ___3 Teaching
   ___4 Service

(Continued on Page 2)

5. Describe the type of responsibility you had for the planning and execution of research projects (funded or non-funded) at the time of attending the lectures.

___1 No personal administrative responsibility for a research project
___2 Personal responsibility for one or more projects for which I am the principal investigator
___3 Administrative responsibility for an office directing one or more research projects
___4 Responsibility for the management of a project under the direction of a principal investigator
___5 Other (Specify)_____

6. Indicate the type(s) for which you had responsibility according to you response to Item 5: (check more than one if needed)

___1 Non-funded project
___2 Locally funded project
___3 State funded project
___4 Federally funded project
___5 Other (Specify)_____

7. How did you become aware of the PERT dissemination lecture series?

___1 Announcement distributed at 1965 AERA meeting
___2 Announcement in local news media (newspaper, radio, etc.)
___3 Announcement in professional journals or newsletters (Phi Delta Kappan, American Psychologist, etc.)
___4 Conversation or note from colleague
___5 Other (Specify)_____

8. Please indicate the conditions under which you attended the PERT lectures:

___1 Designated representative of an agency of institution
___2 Volunteer attendee because of personal interest
___3 Other (Specify)_____

9. Describe your attendance at the dissemination lectures:

___1 Attended only first day
___2 Attended only the second day
___3 Attended both days
___4 Attended only parts of any one day

10. Were you acquainted with PERT prior to attending the dissemination lectures?

___1 Yes
___2 No

IF YOU ANSWERED YES TO ITEM 10, RESPOND TO ITEMS 11 THRU 15. IF NO, CONTINUE ON AT ITEM 16.

11. How would you describe your knowledge about PERT?

___1 Little knowledge
___2 Some knowledge
___3 Much knowledge

(Continued on Page 3)

12. How would you describe your experience with PERT?

___1 No practical experience
___2 Little practical experience
___3 Some practical experience
___4 Much practical experience

13. How would you describe the lectures with regard to coverage and explanation of basic PERT concepts and principles?

___1 Basic concepts were not adequately covered nor explained
___2 Basic concepts were adequately covered but not sufficiently explained
___3 Adequately covered and explained
___4 Not able to judge

14. How would you describe the accuracy and up-to-dateness of the material presented in the lecture?

___1 Both accurate and up-to-date
___2 Some inaccuracies but up-to-date
___3 Accurate but not up-to-date
___4 Neither accurate nor up-to-date
___5 Not able to judge

15. Did you feel that ideas and content of the lectures were of sufficient quality that you would utilize them in presenting a PERT orientation lecture to your own agency or staff?

___1 Yes
___2 No
___3 Not able to judge

16. Describe any plans you had for using the information presented at the lectures (check more than one if necessary):

___1 For use in planning project proposal
___2 As a management system for a specific on-going project
___3 To enable me to control several on-going projects under my responsibility
___4 To conduct instruction
___5 I had no immediate plans for using it since I was just curious to learn about PERT
___6 Other (Specify)_____

17. Did you actually use PERT on a new or on-going project?

___1 Yes
___2 No

18. If your answer to Item 17 was Yes, describe briefly the nature of the project(s) on which you implemented the technique (e.g., curriculum development projects, experimental research project, school survey project, etc.).

_____

_____

(Continued on Page 4)

19. Describe the degree of implementation for the project identified on Item 18. If None, go on to Item 20. (Check only highest level of implementation).

___1 Developed only a network
___2 Developed a network and secured time estimates
___3 Developed a network, secured time estimates, and established a schedule for control purposes
___4 Accomplished actions described in response 3 plus conducting one or more up-dates of the project
___5 Other (Specify)_____

20. If you did not or have not utilized or implemented PERT, please indicate your reason (check more than one if necessary).

___1 It is not suitable for my type of work
___2 It is too complicated
___3 It was not what I thought it was going to be
___4 Insufficient knowledge about the technique
___5 Involves too much initial effort and time
___6 Lack of a computer to process data
___7 Other (Specify)_____

21. If you made any presentation of an instructional nature based upon information secured from attending the dissemination lectures, indicate the nature of the audience(s) and the approximate size of the group(s).

	Group	Size
___1	Students	_____
___2	Fellow staff members	_____
___3	Research project personnel	_____
___4	Other (Specify)_____	_____

22. If the lecture was your first introduction to PERT, were you motivated to attend any other presentations, seminars, or courses on PERT as a consequence of attending the dissemination lectures?

___1 Yes
___2 No

23. If Yes to Item 22, identify below any presentation(s) you did attend. If None, so indicate.

_____

_____

24. Have you employed or utilized PERT consultants in your activities since attending the dissemination lectures?

___1 Yes
___2 I wanted to but couldn't locate one
___3 No

(Continued on Page 5)

25. List below any offices or agencies you can remember contacting for further information about PERT. If None, so indicate.

Agency	Location
_____	_____
_____	_____
_____	_____

26. Listed below are several possible procedures for presenting information on a new technique, such as PERT, to the educational community. Rank from 1 to 8 items listed in terms of how you would rate their effectiveness as an initial means of dissemination.

___1 Dissemination lectures
___2 Instructional film
___3 Monograph or book
___4 Article(s) in professional journal(s)
___5 Presentation(s) at national professional meeting(s)
___6 College level course(s)
___7 Workshop(s)
___8 Other (Specify)_____

27. The U. S. Office of Education is planning to publish a monograph on PERT applications in education. Under what conditions would you attempt to secure such a monograph?

___1 I would read it if the monograph was sent to me gratis
___2 I would write for a copy if available free
___3 I would buy a copy if it had to be purchased
___4 I would <u>not</u> buy a copy if it had to be purchased
___5 Other (Specify)_____

IF YOU HAVE MADE ANY APPLICATION OF PERT TO EDUCATIONAL PROJECTS AND HAVE AVAILABLE NETWORKS, COMPUTER REPORTS, AND SIMILAR MATERIALS, WE WOULD APPRECIATE RECEIVING SUCH INFORMATION FOR OUR FILES. PLEASE SEND TO THE ADDRESS AT THE TOP OF THE FIRST PAGE.

<u>Be sure you have responded to all items as required</u>

<u>Thank you for your cooperation.</u>

APPENDIX K

Program Publicity and Course Certificate

3 COLLEGES IN STATE GET FEDERAL GRANTS

Special to The New York Times

WASHINGTON, June 5—The New York State Education Department and three colleges in the state have been awarded grants totaling $426,000 to train education researchers, the United States Office of Education announced today.

The Rockland Community College, Columbia University and Cornell University were the schools named. The funds will enable them to train a total of 38 education researchers.

The State Education Department will receive $325,000 for training 30 students on the graduate level and for program development.

Rockland College will receive $23,721 to train 25 students in institutes or special-training projects. Participants can receive payments of up to $75 a week.

Nine students at the graduate level are to be trained at Columbia through a grant of $54,600.

Cornell will receive $24,000 for training four students at the graduate level. The graduate-training program is for a maximum of three years. Students enrolled in programs leading to master's and doctor's degrees may receive up to $2,800 for the academic year.

DAVID J. FOX, City College of the City University of New York, has authored *Fundamentals of Research in Nursing* (New York, Appleton Century Crofts), a basic research text intended for the consumer of research in the health fields. He has also received a grant from the U.S. Office of Education to study the interaction of fifth and second grade children in an elementary school "Peace Corps" in which achieving fifth graders are assigned to a low achieving second grade class (the underdeveloped nation). The children meet regularly in social and play situations during the school year. The project will evaluate changes in the [illegible] and academic functioning [illegible]

KARL C. GARRI[illegible] from the Univer[illegible] Education at [illegible] ginia. He is te[illegible] psychology.

I. IGNACY GOL[illegible] University, has [illegible] President of the [illegible] ficiency.

IRA GORDON, Un[illegible] grant from the [illegible] tion for the devel[illegible] for rural disadvan[illegible] indigenous wome[illegible] focus on the first [illegible] *Studying The Chi[illegible]* by John Wiley and Sons.

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BUREAU OF EDUCATIONAL RESEARCH
University of Connecticut, U-4
Storrs, Conn. 06268

[illegible] public

IRVIN HOCHMAN, Associate Professor of Psychology, Rockland Community College, State University of New York, is Program Director of a "Research Training Institute for Junior College Personnel" supported through a research training grant from the United States Office of Education, Bureau of Research. The Institute is being held at the College from July 11 to August 19, 1966 for teaching and administrative staff of public and private institutions. GERHARD LANG, Research Associate, Board of Examiners, N.Y.C. Board of Education, is Principal Instructor and Consultant.

JOHN HOLLAND, American College Testing Program, is the author of *The Psychology of Vocational Choice: A Theory of Personality Types and Environmental Models* published recently by Blaisdell-Ginn.

FRED N. KERLINGER has been appointed director of a new doctoral program of the School of Education, New York University. It is called "Research in Educational Psychology: Design, Measurement, Statistics."

HENRY CLAY LINDGREN, San Francisco State College, is co-author (with Donn Byrne and Lewis Petrinovich) of *Psychology: An Introduction to a Behavioral Science*, which was published by John Wiley and Sons early in 1966.

JAMES F. MAGARY has returned to the University of Southern California as an associate professor in the Division of Educational Psychology, Exceptional Children and Counselor Education, after several years leave on the East Coast. With 27 collaborators, he has edited and written a handbook entitled *School Psychological Services: In Theory and Practice*, to be published by Prentice-Hall in November, 1966.

FRANCES A. MULLEN, consulting psychologist, Chicago, has resigned from her position as Assistant Superintendent of the Chicago public schools to devote full time to work as a consultant in special education of the handicapped.

MURRAY LINCOLN MURRAY, Illinois State University, has been spending his sabbatic leave, with his wife Margaret, visiting clinics abroad which treat learning disorders. His itinerary has included Glasgow, London, Amster[illegible]rlin, Vienna, Istanbul, Athens, Rome, Barcelona, [illegible]d Paris. He has collected documentary films [illegible]dings.

[illegible]. NOLL is retiring as Professor of Education [illegible]at Michigan State University on July 1, 1966. [illegible]me day he leaves for Bangkok, Thailand for [illegible]eeks stint as consultant on testing programs. [illegible] to return to East Lansing about September [illegible]tober 1 he begins work with Bob Ebel as [illegible]itor of the Encyclopedia of Educational Re[illegible]topes in the year 1966-67 also to complete a [illegible]acher education at Michigan State on which [illegible] working this year. The prospects seem to [illegible]irement will be a busy and enjoyable

[illegible] Connecticut, has received [illegible]om the U. S. Office of [illegible]ation of Project Essay [illegible] as a pilot study of the possibil[illegible]ing essays by computer. Dr. Page has been [illegible]named director of a USOE doctoral research-training program, to develop educational researchers with computer competence, particularly in natural-language analysis (e.g., for essays, information storage and retrieval, etc.). Next year he will be part-time Visiting Scientist to the M.I.T. Computation Center, under a grant made by the Center and by IBM Corporation. He is on the Editorial Board for the new journal, *Computer Studies in Verbal Behavior and the Humanities*, to be published by the Mouton Press.

HARRY J. PARKER, *Ph.D.*, University of Oklahoma, has been promoted to Professor of Education. He has also been appointed Research Professor of Preventive Medicine and Public Health in the University of Oklahoma Medical Center. This appointment calls for half-time teaching, research and service in rehabilitation medicine.

WILLIAM WATSON PURKEY, University of Florida, has received a USOE grant for research on "Independent Study for Gifted Underachievers." Dr. Purkey would welcome communications from investigators in related fields.

L. LEON REID, formerly of the University of Pittsburgh, has taken a position as Director, Greater Pittsburgh Guild for the Blind, 5231 Centre Avenue, Pittsburgh. Dr. Reid does, however, maintain status as Adjunct Professor in the School of Education at the University of Pittsburgh. His new program is concerned not so much with vocational training as with "helping the blind person to adjust to blindness."

JOSEPH M. SCANDURA, Florida State University, accepted a position as Associate Professor of Mathematics Education in the Graduate School of Education, University of Pennsylvania. One of his major responsibilities will

Please Pick a Prof, County College Asks

Meeting is urgently needed for approximately 30 college professors and administrators from public and private junior colleges who will attend a six-week research training institute for junior college personnel July 11 to Aug. 19, at Rockland Community College.

Supported through a research grant from the U.S. Office of Education Bureau of Research, the program will be directed by Dr. Irvin Hochman, associate professor of psychology at the College.

The principal instructor and consultant will be Dr. Gerhard Lang, research associate of the Board of Examiners for the New York City Board of Education.

The participants, representing over 15 academic fields, will receive intensive training in educational research methodology and statistical techniques. Each participant will be required to develop in detail as least one substantial research proposal. Nationally prominent guests lecturers have accepted invitations to address the group.

Persons interested in renting furnished rooms or apartments should contact Dr. Hochman at the college or at his home, 120 Summit Ave., Dumont, N.J.

RESEARCH TRAINING INSTITUTE FOR JUNIOR COLLEGE PERSONNEL

ROCKLAND COMMUNITY COLLEGE
SUFFERN, NEW YORK

THIS IS TO CERTIFY THAT

_____

HAS ATTENDED THIS INSTITUTE WHICH WAS SUPPORTED THROUGH A RESEARCH TRAINING GRANT FROM THE UNITED STATES OFFICE OF EDUCATION, BUREAU OF RESEARCH AND HELD ON THE CAMPUS OF THE ROCKLAND COMMUNITY COLLEGE, STATE UNIVERSITY OF NEW YORK.

July 11 - August 19, 1966

IRVIN HOCHMAN, Ph.D.
PROGRAM DIRECTOR

GERHARD LANG, Ph.D.
PRINCIPAL INSTRUCTOR
AND CONSULTANT